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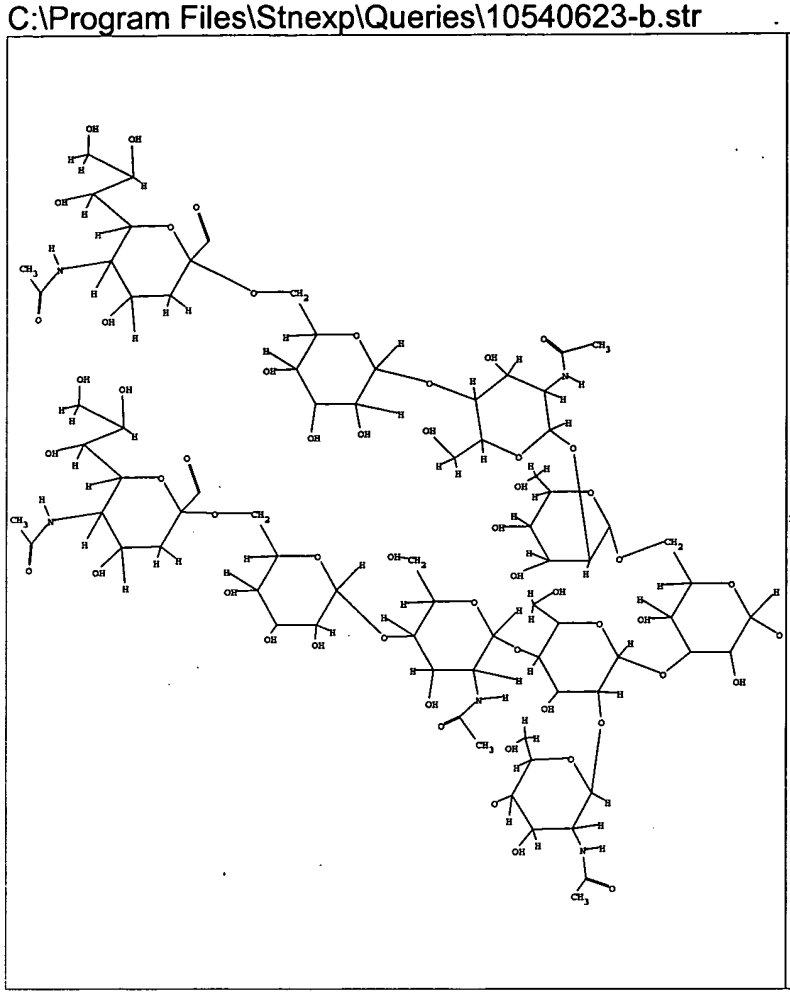

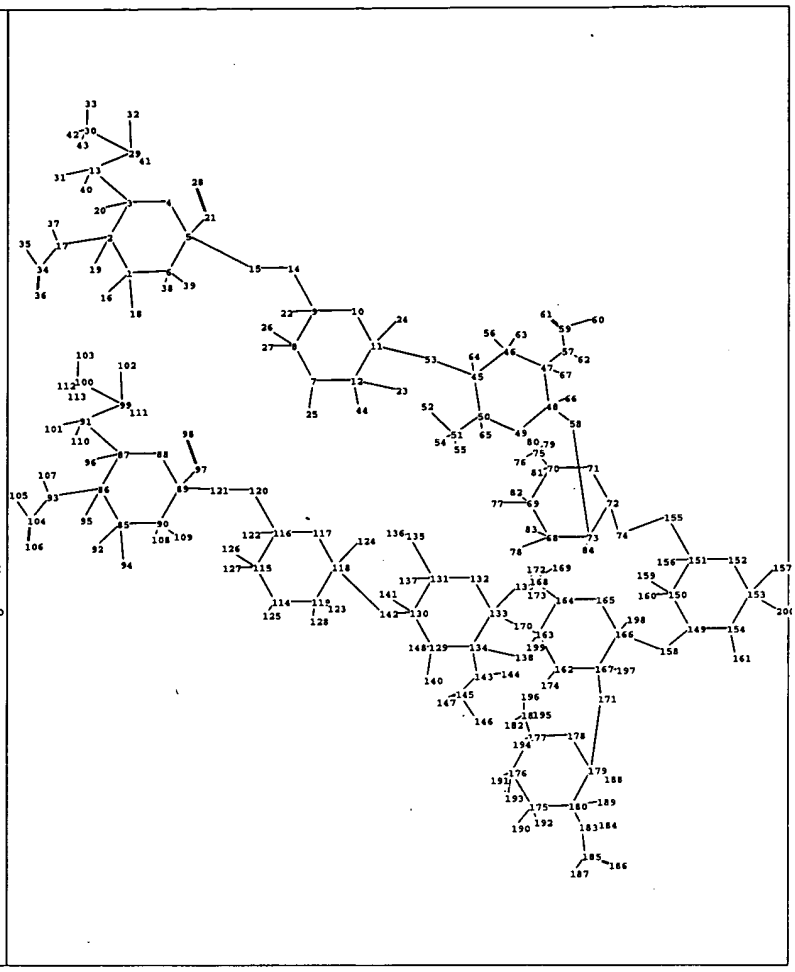

chain nodes :

13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 74 75 76 77 78 79 80 81 82 83 84 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 120 121 122 123 124 125 126 127 128 135 136 137 138 139 140 141 142 143 144 145 146 147 148 155 156 157 158 159 160 161 168 169 170 171 172 173 174 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 45 46 47 48 49 50 68 69 70 71 72 73 85 86 87 88 89 90 114 115 116 117 118 119 129 130 131 132 133 134 149 150 151 152 153 154 162 163 164 165 166 167 175 176 177 178 179 180

chain bonds :

1-16 1-18 2-17 2-19 3-13 3-20 5-21 5-15 6-38 6-39 7-25 8-26 8-27 9-14 9-22 11-24 11-53 12-23 12-44 13-29 13-31 13-40 14-15 17-34 17-37 21-28 29-30 29-32 29-41 30-33 30-42 30-43 34-35 34-36 45-53 45-64 46-56 46-63 47-57 47-67 48-58 48-66 50-51 50-65 51-52 51-54 51-55 57-59 57-62 58-73 59-60 59-61 68-78 68-83 69-77 69-82 70-75 70-81 72-74 73-84 74-155 75-76 75-79 75-80 85-92 85-94 86-93 86-95 87-91 87-96 89-97 89-121 90-108 90-109 91-99 91-101 91-110 93-104 93-107 97-98 99-100 99-102 99-111 100-103 100-112 100-113 104-105 104-106 114-125 115-126 115-127 116-120 116-122 118-124 118-142 119-123 119-128 120-121 129-140 129-148 130-141 130-142 131-135 131-137 133-139 133-170 134-138 134-143 135-136 143-144 143-145 145-146 145-147 149-158 150-159 150-160 151-155 151-156 153-157 153-200 154-161 158-166 162-174 163-170 163-199 164-168 166-198 167-171 167-197 168-169 168-172 168-173 171-179 175-190 175-192 176-191 176-193 177-181 177-194 179-188 180-183 180-189 181-182 181-195

181-196 183-184 183-185 185-186 185-187

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 45-46 45-50 46-47 47-48 48-49
49-50 68-69 68-73 69-70 70-71 71-72 72-73 85-86 85-90 86-87 87-88 88-89 89-90 114-115
114-119 115-116 116-117 117-118 118-119 129-130 129-134 130-131 131-132 132-133 133-134
149-150 149-154 150-151 151-152 152-153 153-154 162-163 162-167 163-164 164-165 165-166
166-167 175-176 175-180 176-177 177-178 178-179 179-180

exact/norm bonds :

1-2 1-6 1-16 2-3 2-17 3-4 4-5 5-6 5-15 7-8 7-12 7-25 8-9 8-27 9-10 10-11 11-12 11-53
12-44 13-31 17-34 21-28 29-32 30-33 34-36 45-46 45-50 45-53 46-47 46-56 47-48 47-57 48-49
48-58 49-50 51-52 57-59 58-73 59-61 68-69 68-73 68-78 69-70 69-77 70-71 71-72 72-73 72-74
75-76 85-86 85-90 85-92 86-87 86-93 87-88 88-89 89-90 89-121 91-101 93-104 97-98 99-102
100-103 104-106 114-115 114-119 114-125 115-116 115-127 116-117 117-118 118-119 118-142
119-128 129-130 129-134 129-140 130-131 130-142 131-132 132-133 133-134 133-170 134-143
143-145 145-147 149-150 149-154 149-158 150-151 150-160 151-152 152-153 153-154 153-200
154-161 158-166 162-163 162-167 162-174 163-164 163-170 164-165 165-166 166-167 167-171
168-169 171-179 175-176 175-180 175-190 176-177 176-191 177-178 178-179 179-180 180-183
181-182 183-185 185-186

exact bonds :

1-18 2-19 3-13 3-20 5-21 6-38 6-39 8-26 9-14 9-22 11-24 12-23 13-29 13-40 14-15 17-37
29-30 29-41 30-42 30-43 34-35 45-64 46-63 47-67 48-66 50-51 50-65 51-54 51-55 57-62 59-60
68-83 69-82 70-75 70-81 73-84 74-155 75-79 75-80 85-94 86-95 87-91 87-96 89-97 90-108
90-109 91-99 91-110 93-107 99-100 99-111 100-112 100-113 104-105 115-126 116-120 116-122
118-124 119-123 120-121 129-148 130-141 131-135 131-137 133-139 134-138 135-136 143-144
145-146 150-159 151-155 151-156 153-157 163-199 164-168 166-198 167-197 168-172 168-173
175-192 176-193 177-181 177-194 179-188 180-189 181-195 181-196 183-184 185-187

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom
13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS 20:CLASS 21:CLASS 22:CLASS
23:CLASS 24:CLASS 25:CLASS 26:CLASS 27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS
33:CLASS 34:CLASS 35:CLASS 36:CLASS 37:CLASS 38:CLASS 39:CLASS 40:CLASS 41:CLASS 42:CLASS
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174:CLASS 175:Atom 176:Atom 177:Atom 178:Atom 179:Atom 180:Atom 181:CLASS 182:CLASS 183:CLASS
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L4 ANSWER 10 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:700635 CAPLUS
DOCUMENT NUMBER: 130:62663
TITLE: Expression of N-linked sialyl Lex determinants and O-glycans in the carbohydrate moiety of human amniotic fluid transferrin during pregnancy
AUTHOR(S): Van Rooijen, Johannes J. M.; Jeschke, Udo; Kamerling, Johannis P.; Vliegenthart, Johannes F. G.
CORPORATE SOURCE: Bijvoet Center, Department of Bio-Organic Chemistry, Utrecht University, Utrecht, NL-3508 TB, Neth.
SOURCE: Glycobiology (1998), 8(11), 1053-1064
CODEN: GLYCE3; ISSN: 0959-6658
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English

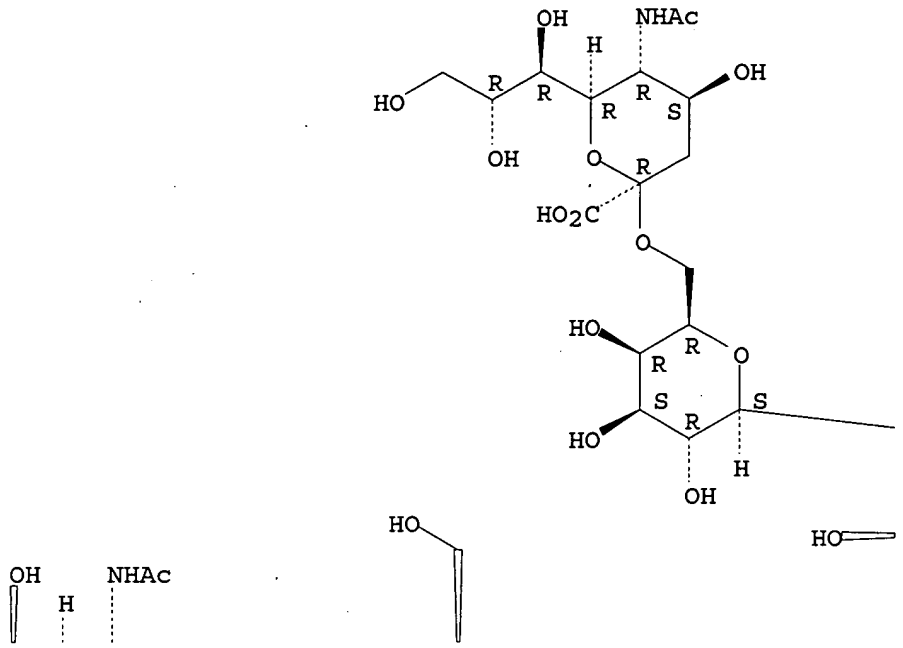
AB Transferrin, a glycoprotein involved in iron transport in body fluids, was isolated from amniotic fluid of a hydramnios patient by sequential anion-exchange chromatog. and gel filtration. The N-glycans of human amniotic fluid transferrin (hAFT) were enzymically liberated by PNGase-F digestion, isolated by gel filtration and fractionated by (high-pH) anion-exchange chromatog. After alkaline borohydride treatment of native hAFT, the released O-glycans were isolated by gel filtration and fractionated by anion-exchange chromatog. Structure elucidation of 14 N- and 2 O-glycans was performed by 500 or 600 MHz 1H-NMR spectroscopy. Besides conventional N-glycans established earlier for human serum transferrin (hST), new (α1-3)-fucosylated N-glycans were found, representing sialyl Lex elements. Furthermore, as compared to hST, a higher degree of (α1-6)-fucosylation and an increase in branching from di- to triantennary compds. has been detected. The presence of O-glycans is demonstrated for the first time in transferrin.

IT 83411-87-4P
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
(expression of N-linked sialyl Lex determinants and O-glycans in carbohydrate moiety of human amniotic fluid transferrin during pregnancy)

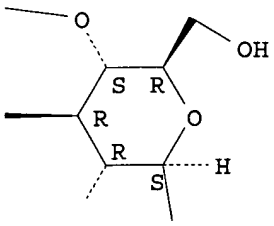
RN 83411-87-4 CAPLUS
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



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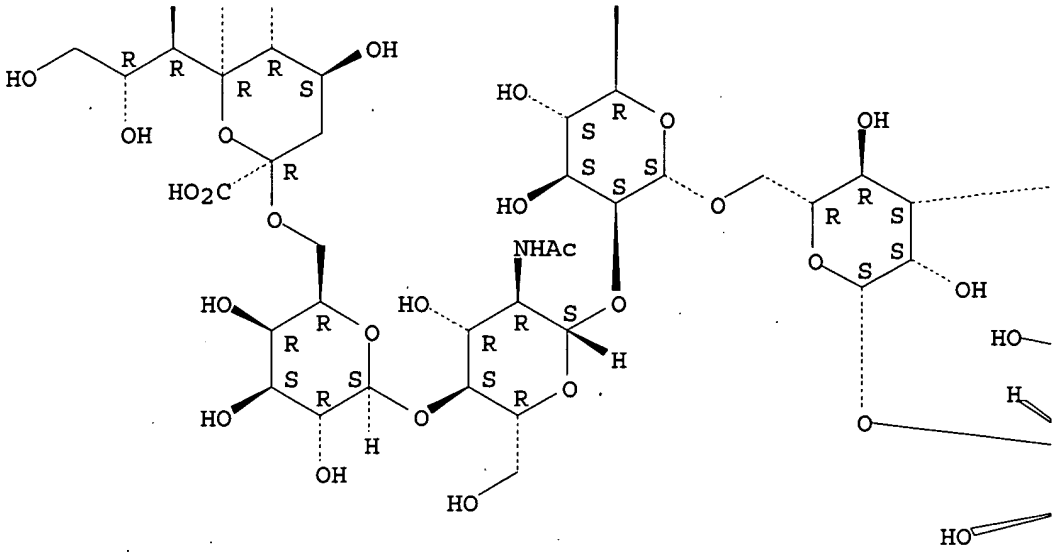

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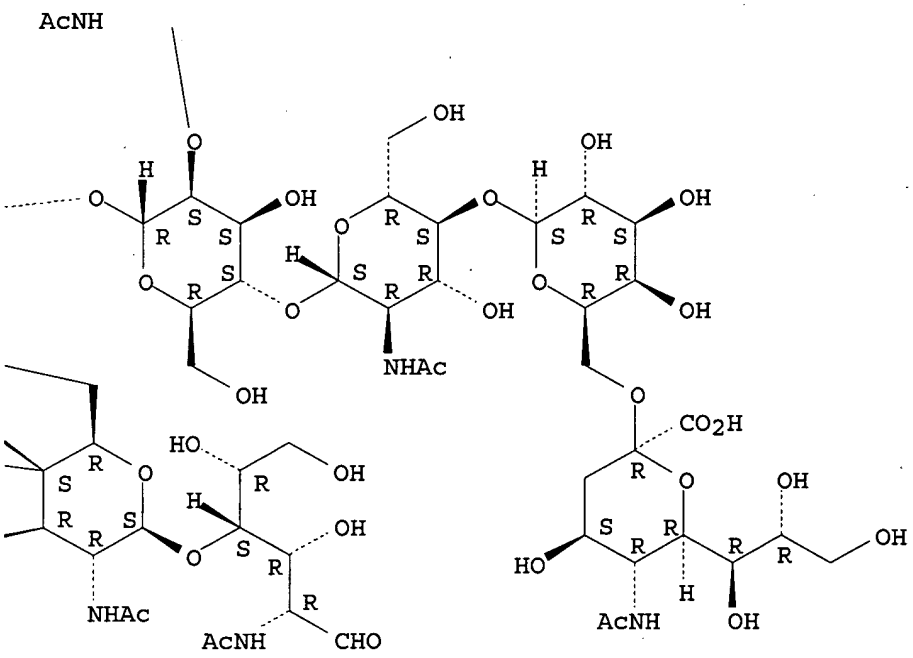


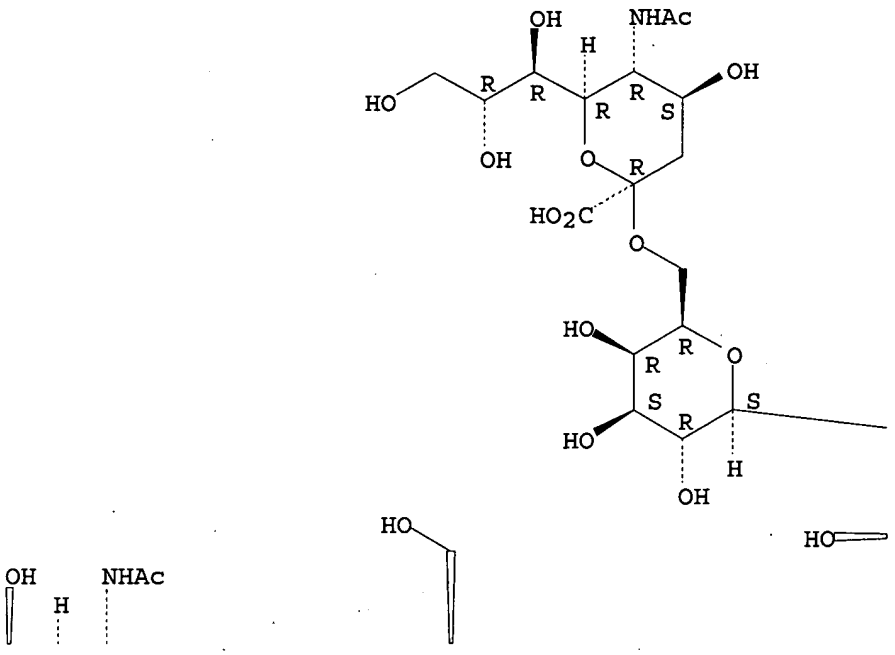
REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 11 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1995:656381 CAPLUS
DOCUMENT NUMBER: 123:105585
TITLE: Structures of the N-linked oligosaccharides on human plasma vitronectin
AUTHOR(S): Ogawa, Haruko; Yoneda, Atsuko; Seno, Nobuko; Hayashi, Masao; Ishizuka, Ineo; Hase, Sumihiro; Matsumoto, Isamu
CORPORATE SOURCE: Dep. Chem., Ochanomizu Univ., Tokyo, Japan
SOURCE: European Journal of Biochemistry (1995), 230(3), 994-1000

CODEN: EJBCAI; ISSN: 0014-2956
PUBLISHER: Springer
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The structures of N-linked oligosaccharides present on human plasma vitronectin were elucidated. Oligosaccharides were released from the vitronectin by N-glycosidase F digestion and tagged with 2-aminopyridine; the pyridylamino-oligosaccharides were then fractionated by anion-exchange and reverse-phase HPLC. Ten major pyridylamino-oligosaccharides were isolated. The linkages and locations of sialic acid residues were determined by desialylation with Salmonella sialidase in combination with acid. The asialo forms were then analyzed by two-dimensional sugar mapping, component sugar anal. and 400-MHz 1H-NMR spectroscopy. The major oligosaccharides of human vitronectin were of the diantennary N-acetyllactomsamine type, with a lesser amount of the tri- and a small amount of the monoantennary type, to which 1-3 mol sialic acid residues were linked, mostly through α2-6 linkages, although α2-3 linkages were also present. The possibility that several binding activities of vitronectin can be ascribed to its glycan moiety was discussed, based on the specific features of the N-linked oligosaccharides on human vitronectin revealed here.
IT 83411-87-4
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(structures of N-linked oligosaccharides on human plasma vitronectin)
RN 83411-87-4 CAPLUS
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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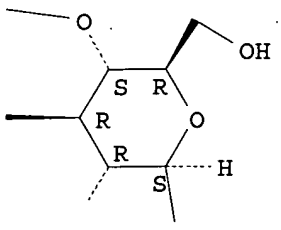

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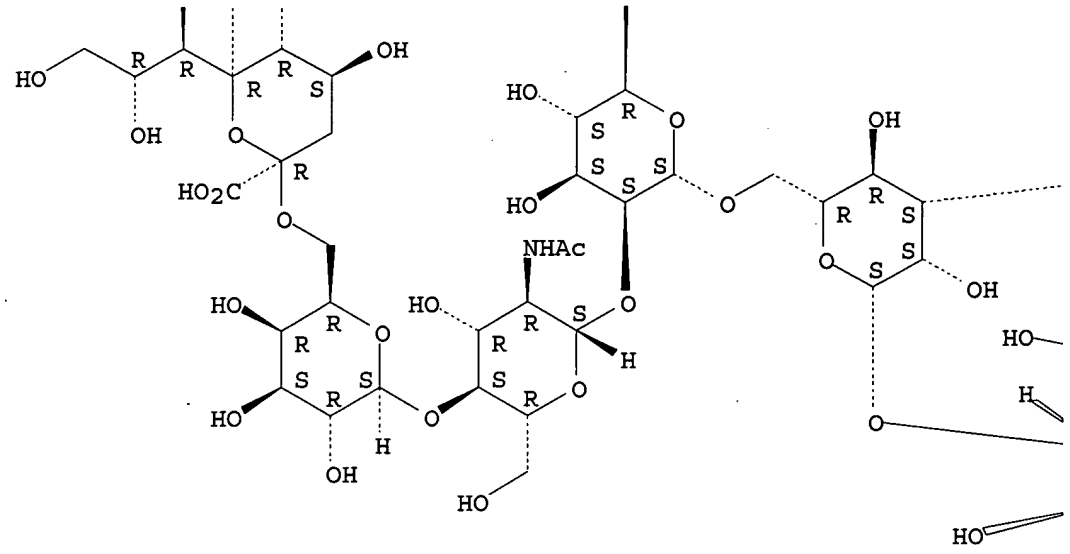

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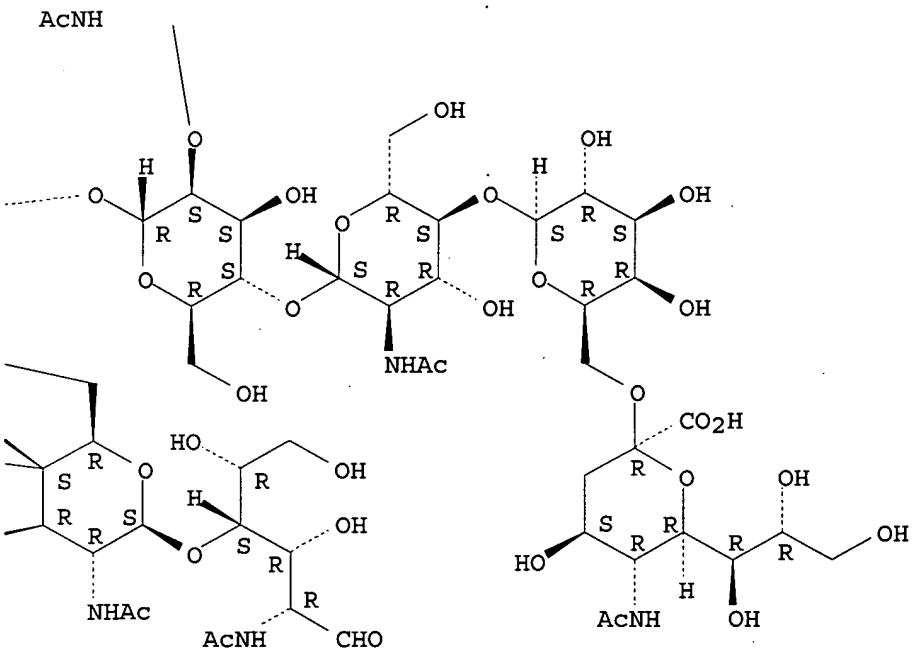


L4 ANSWER 12 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER:	1995:363446 CAPLUS
DOCUMENT NUMBER:	122:208986
TITLE:	Examination of complex oligosaccharides by matrix-assisted laser desorption/ionization mass spectrometry on time-of-flight and magnetic sector instruments
AUTHOR(S):	Harvey, D. J.; Rudd, P. M.; Bateman, R. H.; Bordoli, R. S.; Howes, K.; Hoyes, J. B.; Vickers, R. G.
CORPORATE SOURCE:	Dep. Biochem., Univ. Oxford, Oxford, OX1 3QU, UK
SOURCE:	Organic Mass Spectrometry (1994), 29(12), 753-65 CODEN: ORMSBG; ISSN: 0030-493X
PUBLISHER:	Wiley

DOCUMENT TYPE: Journal
LANGUAGE: English

AB Matrix-assisted laser desorption/ionization (MALDI) spectra of underivatized oligosaccharides of the type attached to asparagine in glycoproteins (N-linked oligosaccharides) were examined with linear time-of-flight (TOF) and magnetic sector instruments using 2,5-dihydroxybenzoic acid (2,5-DHB), α-cyano-4-hydroxycinnamic acid, sinapinic acid, 1,4-dihydroxynaphthalene-2-carboxylic acid or 2-(4-hydroxyphenylazo)benzoic acid (HABA) as the matrixes. All compds. formed abundant [M + Na]+ ions with the strongest signals being obtained from 2,5-DHB after recrystn. of the initially dried sample spot from ethanol. Only traces of fragmentation were detected from neutral oligosaccharides on the TOF system but more abundant fragment ions (about 5% relative abundance) were present in the spectra from the magnetic sector instrument. Fragmentation was dominated by Y-type glycosidic cleavages (Domon and Costello nomenclature) between all sugar residues yielding sequence and branching information. Sialic acid-containing oligosaccharides generally produced the sodium adduct of the sodium salt and gave much weaker signals than the neutral sugars in the pos.-ion mode. There was also considerable loss of the sialic acid moieties as the result of fragmentation on the magnetic sector instrument. The least fragmentation of both neutral and acidic sugars was caused by 2,5-DHB, which proved to be the most appropriate matrix for examination of oligosaccharide mixts. Much better resolution of the oligosaccharides was obtained than by traditional methods such as the use of Bio-Gel P-4 gel filtration column chromatog. It is worth noting also that the measurements were considerably faster (a few minutes as opposed to about 16 h). In addition, no radiolabeling was necessary as required for detection on the P-4 columns. Mixts. of oligosaccharides from several glycoproteins (RNase B, human IgG, transferrin, bovine fetuin, and chicken ovalbumin) were examined and the patterns of the identified oligosaccharides were found to agree closely with the known compns. of the sugar mixts. The mass spectrometric resolution on the magnetic sector instrument was very much better (up to 3000, FWHM) than could be obtained with the linear TOF systems (200-400). The technique was used as a detection system for the products of exoglycosidase digestion in expts. to determine the detailed structure of the oligosaccharide chains from human IgG.

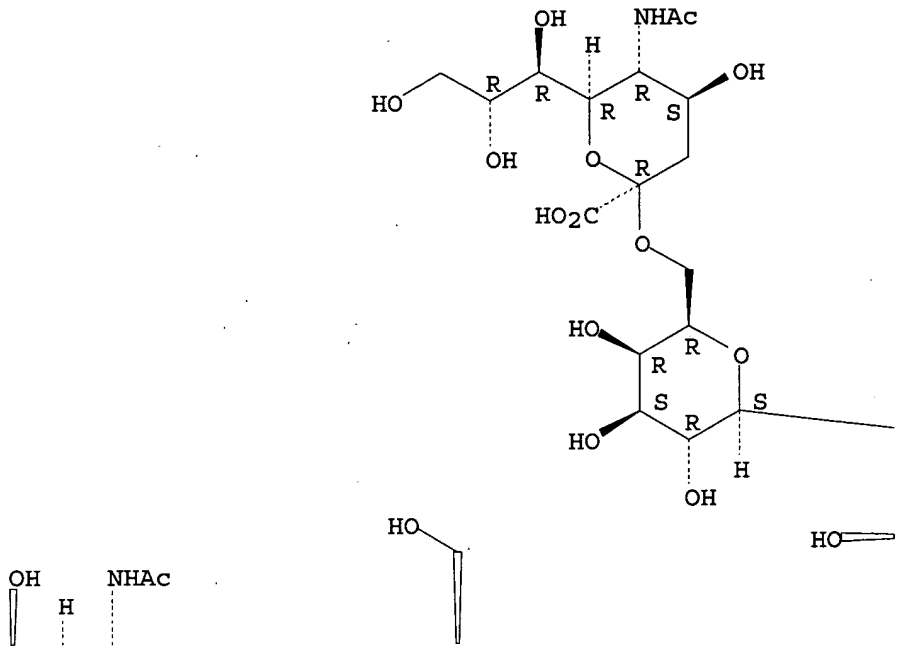
IT 83411-87-4
RL: ANT (Analyte); PRP (Properties); ANST (Analytical study)
(anal. of complex oligosaccharides by matrix-assisted laser desorption/ionization mass spectrometry)

RN 83411-87-4 CAPLUS

CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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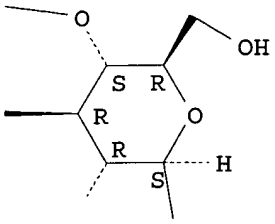
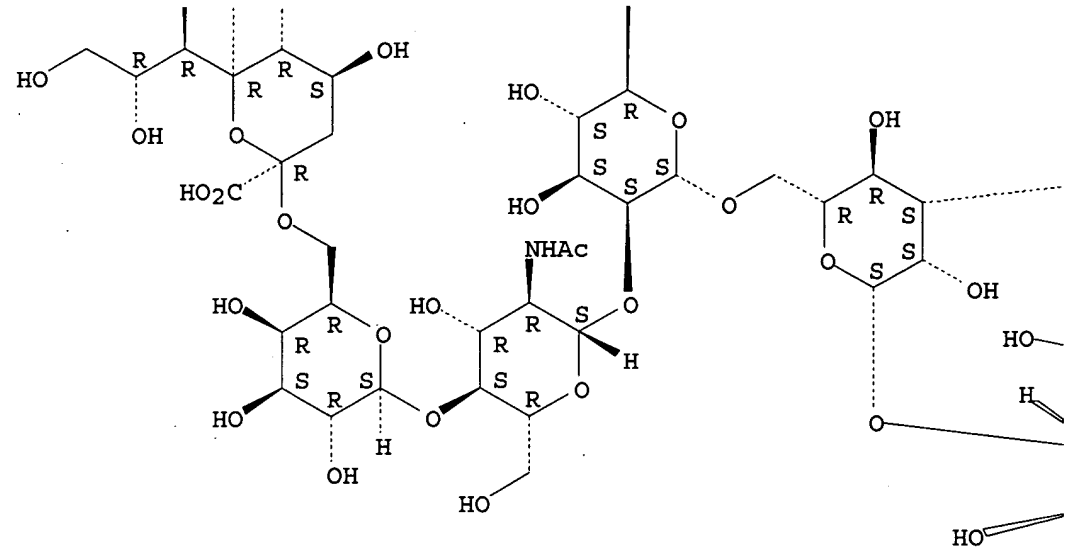


PAGE 2-A



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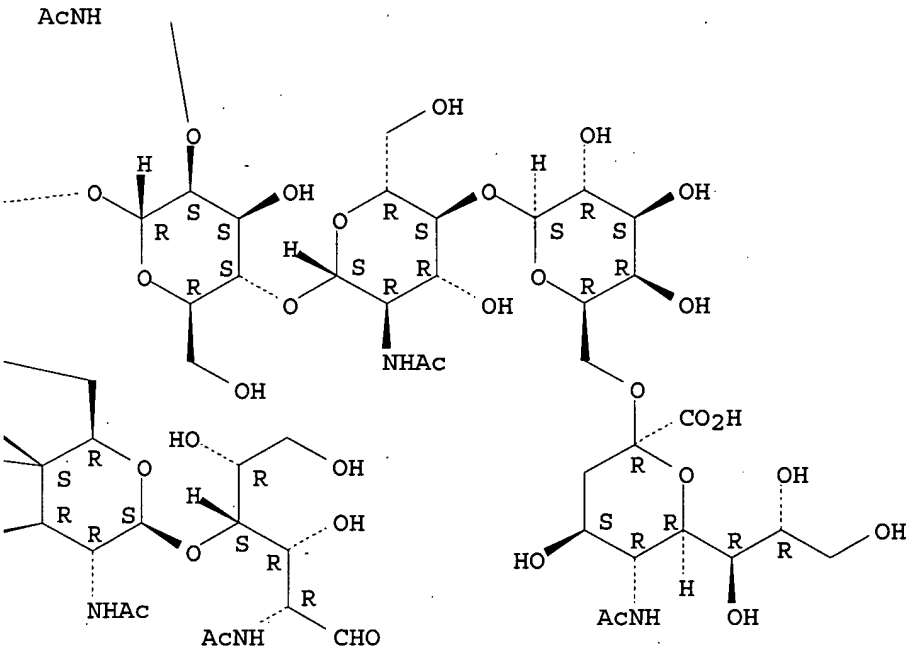


L4 ANSWER 13 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER:	1994:404247 CAPLUS
DOCUMENT NUMBER:	121:4247
TITLE:	Separation of pyridylamino oligosaccharides by high-performance liquid chromatography on an amine-bearing silica column
AUTHOR(S):	Kondo, Akihiro; Kiso, Makoto; Hasegawa, Akira; Kato, Ikunoshin
CORPORATE SOURCE:	Dep. Appl. Bioorg. Chem., Gifu Univ., Yanagido, 501-11, Japan
SOURCE:	Analytical Biochemistry (1994), 219(1), 21-5 CODEN: ANBCA2; ISSN: 0003-2697
DOCUMENT TYPE:	Journal

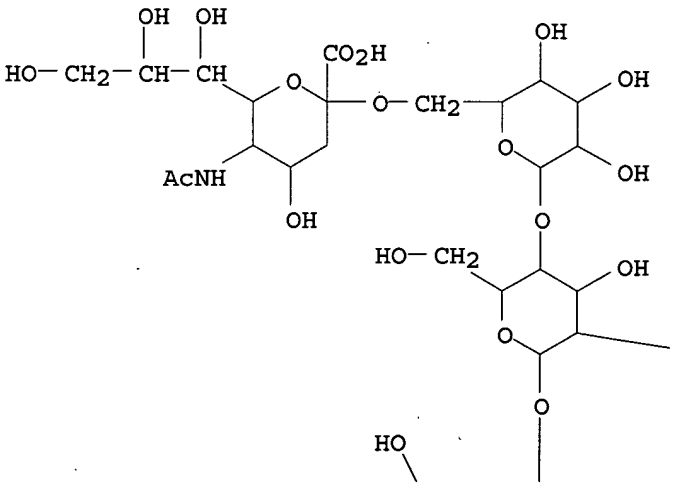
LANGUAGE: English

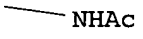
AB Several neutral and sialylated pyridylamino (PA) oligosaccharides were separated on an amine-bearing silica column, PALPAK Type N. Neutral PA-oligosaccharides were fractionated according to the number of sugar residues by amine adsorption. Sialylated PA-oligosaccharides were separated by ion-exchange chromatog. An amine-bearing column was eluted with a mobile phase consisting of acetonitrile and water containing acetic acid titrated to pH 7.3 with triethylamine (TEAA buffer). A mixture of neutral and sialylated PA-oligosaccharides was separated by double-mode HPLC with a solvent program of decreasing acetonitrile concentration (70 to 51%) with a constant TEAA buffer concentration (0.03 M), and then an increasing TEAA buffer concentration (0.03 to 0.49 M) with a constant acetonitrile concentration (51%). This HPLC technique was applied to the comparative oligosaccharide pattern anal. of human Asn-linked oligosaccharides of normal and pathol. IgG by hydrazinolysis. The result indicated clearly that oligosaccharides of IgG myeloma proteins have different core structures and ratios of sialic acid than those of IgG normal proteins.

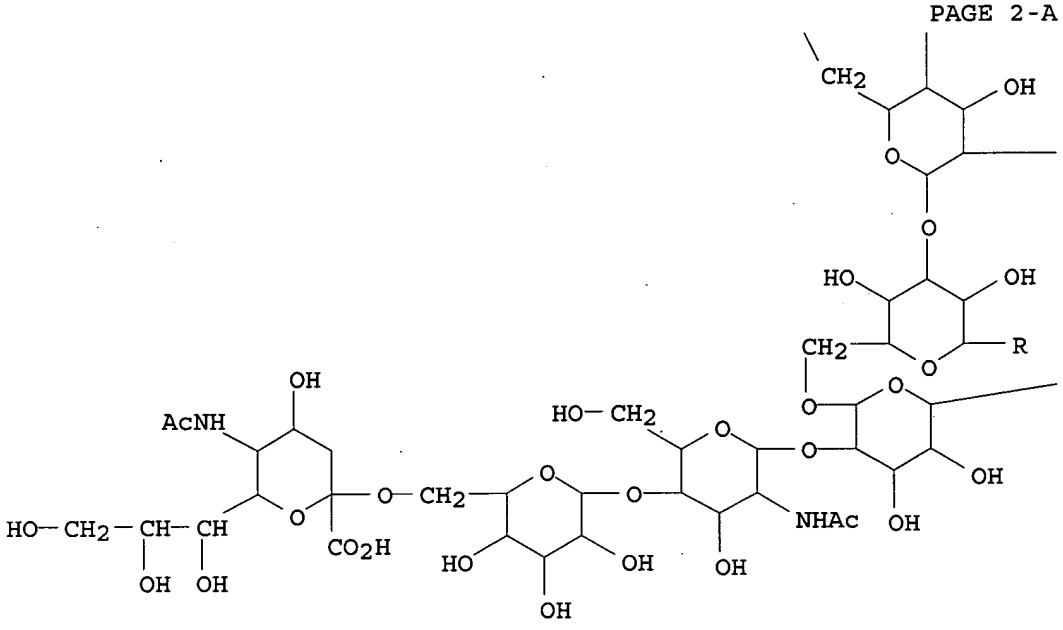
IT 155514-60-6
RL: PROC (Process)
(separation of, by ion-exchange HPLC)

RN 155514-60-6 CAPLUS

CN D-Glucitol, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-1,2-dideoxy-1-(2-pyridinylamino)- (9CI) (CA INDEX NAME)




NHAc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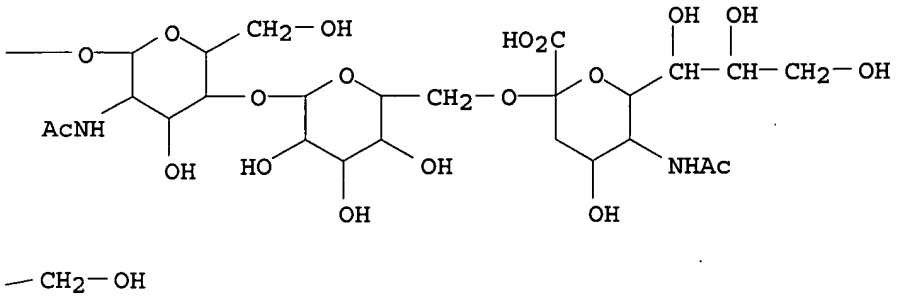
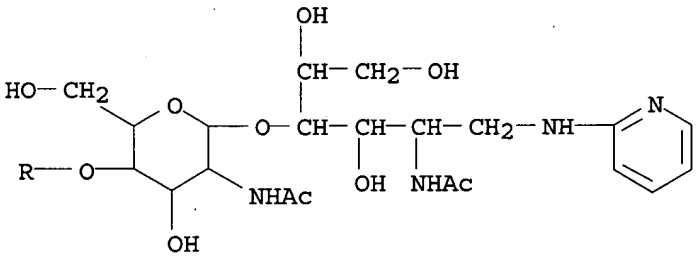
OH
O
O
HO
OH
CH2
R
O
O
O
HO— CH2
O
O
OH
AcNH
OH
O— CH2
O
O
NHAc
OH
HO— CH2— CH— CH
O
CO2H
HO
OH
OH
OH
OH
OH

PAGE 2-B



PAGE 3-A



L4 ANSWER 14 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1994:321290 CAPLUS
DOCUMENT NUMBER: 120:321290
TITLE: The oligosaccharide binding specificities of CD22β, a sialic acid-specific lectin of B cells
AUTHOR(S): Powell, Leland D.; Varki, Ajit
CORPORATE SOURCE: Cancer Cent, Univ. California, La Jolla, CA, 92093, USA
SOURCE: Journal of Biological Chemistry (1994), 269(14), 10628-36
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English

AB CD22β is a B cell surface glycoprotein involved in cell adhesion and activation. The authors previously reported that a recombinant soluble form termed CD22βRg is capable of binding α2-6 sialylated complex N-linked oligosaccharides purified from lymphocyte glycoprotein ligands. Here, the authors utilize a number of naturally and enzymically sialylated oligosaccharides and sialoglycoproteins to further define its lectin specificity and demonstrate that the minimal structure recognized is Neu5Acα2-6Galβ14Glc(NAc). Reduction of the glucose residue of Neu5Acα2-6Galβ1-4Glc diminishes the interaction, while truncation of the sialic acid side chain by mild periodate oxidation abolishes it. Branched oligosaccharides with two α2-6 sialyl residues bind better, regardless of whether they were derived from N- or O-linked oligosaccharides or from gangliosides. α2-3-Sialyl residues have no effect on binding, whereas increasing the number of α2-6-sialyl residues on multiantennary oligosaccharides progressively improves binding. No specific feature of the core region affects binding, although the spacing of the α2-6-sialyl residues on tetraantennary chains appears to have a significant effect. Of several model sialoglycoproteins examined, fetuin and transferrin had an apparent

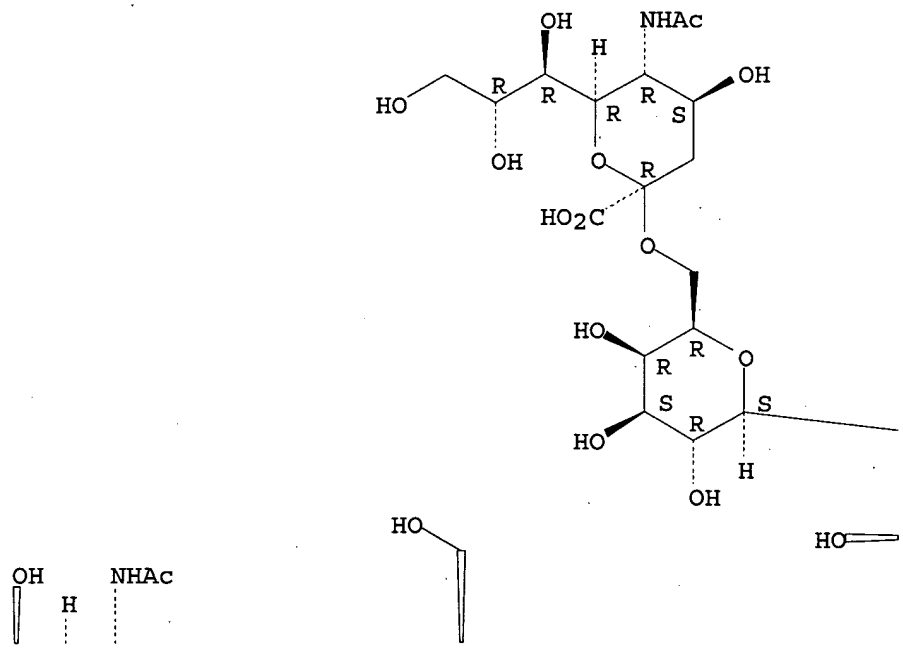
affinity no greater than that observed with free sialylated N-linked oligosaccharides. Some subfractions of these proteins displayed unexpectedly weak binding, suggesting that the protein backbone can exert a neg. effect. In contrast, a subfraction of α1-acid glycoprotein was identified as having a substantially higher apparent affinity than free oligosaccharides derived from it, indicating that multiple glycosylation sites may increase the apparent binding affinity. Thus, CD22βRg contains a lectin activity specific for the minimal motif Neu5Acα2-6Galβ1-4Glc(NAc), and branched, multisialylated oligosaccharides are better ligands, regardless of the core sequences. Intact sialoglycoproteins can also interact, although with a variable affinity not directly predictable from the precise structure of their sialylated oligosaccharides chains. These data may help to explain why certain T and B cell surface sialoglycoproteins with the Neu5Acα2-6Galβ1-4Glc(NAc) motif are superior ligands, capable of mediating CD22β-mediated adhesion and activation events.

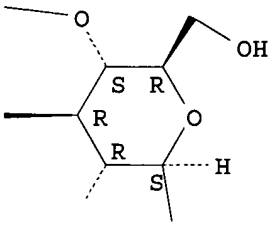
IT 83411-87-4
RL: BIOL (Biological study)
(CD22β lectin binding to, specificity of)

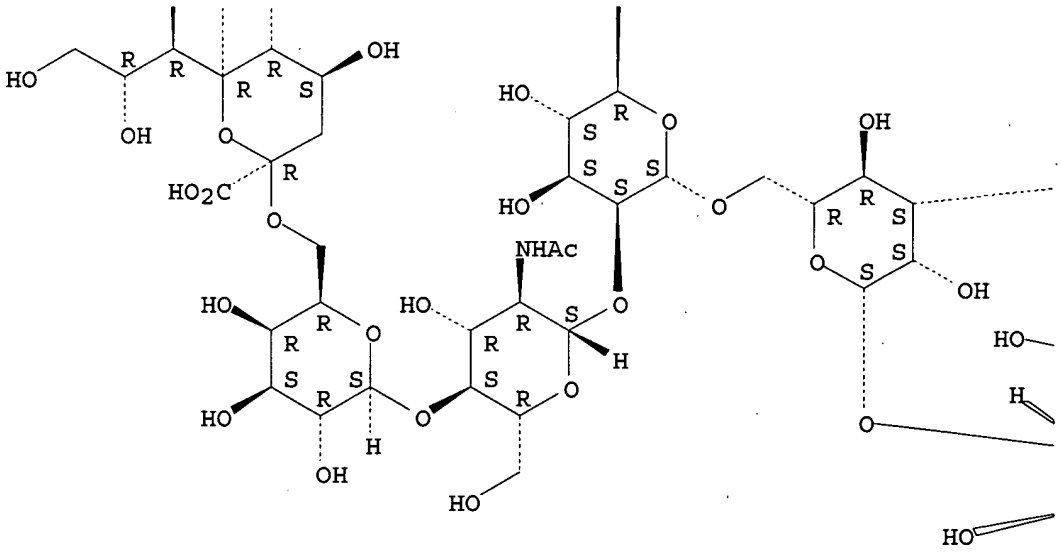
RN 83411-87-4 CAPLUS

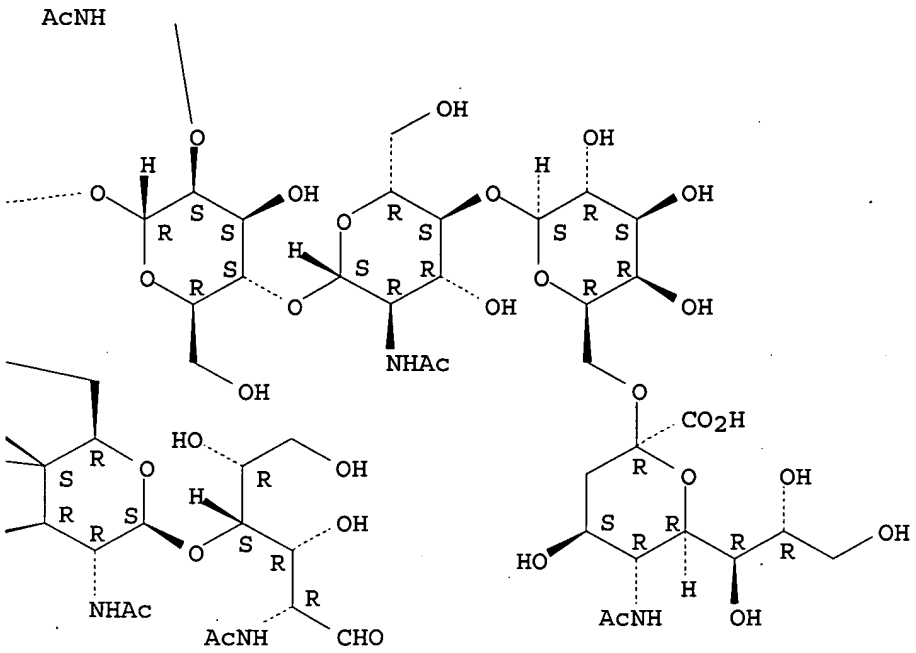
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.









L4 ANSWER 15 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1993:122631 CAPLUS
DOCUMENT NUMBER: 118:122631
TITLE: Investigation of the structural heterogeneity in the carbohydrate portion of a mouse monoclonal immunoglobulin A antibody
AUTHOR(S): Lipniunas, Peter; Groenberg, Gunnar; Krotkiewski, Hubert; Angel, Anne Sophie; Nilsson, Bo
CORPORATE SOURCE: Dep. Carbohydr. Chem., Univ. Lund, Lund, S-223 70, Swed.
SOURCE: Archives of Biochemistry and Biophysics (1993), 300(1), 335-45
CODEN: ABBIA4; ISSN: 0003-9861
DOCUMENT TYPE: Journal
LANGUAGE: English

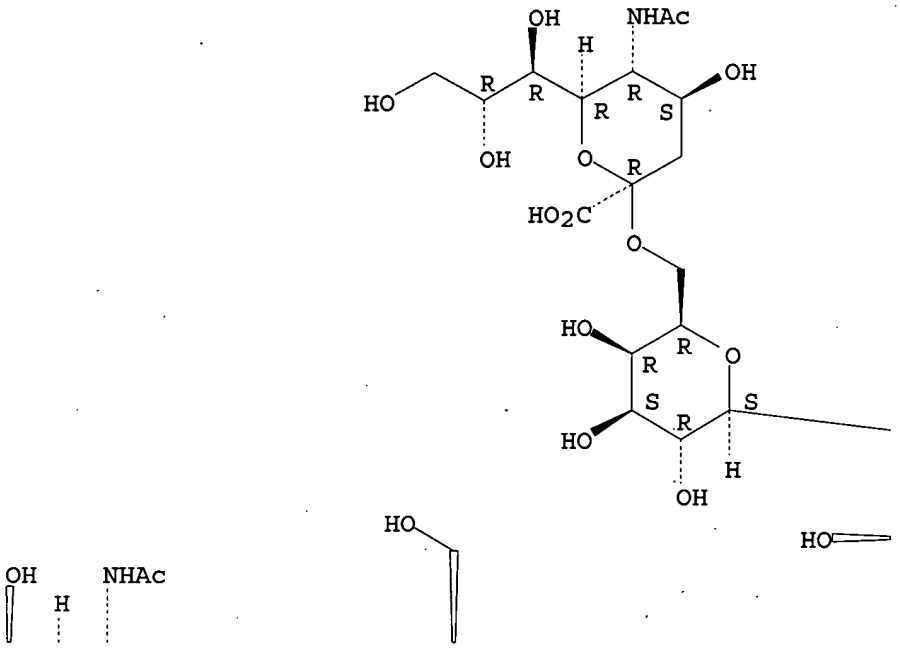
AB A mouse IgA monoclonal antibody was isolated from hybridoma culture fluid by affinity chromatog. Chemical anal. of the intact antibody showed a monosaccharide composition, which besides mannose also contained monosaccharides commonly found in N-linked complex type of carbohydrate structures. No N-acetylgalactosamine was found showing the absence of O-linked oligosaccharides. The carbohydrate chains were released from the polypeptide and, after fractionation on immobilized Con A and high-performance ion-exchange chromatog., structural anal. was performed. The structures were determined by chemical analyses, periodate oxidation in combination with fast atom bombardment mass spectrometry, and 500 MHz 1H NMR spectroscopy. The data revealed a great structural heterogeneity, including partially sialylated bi- and triantennary type of structures. Both types contained in addition species with branches terminated by Galα1-3Gal sequences.

IT 121986-62-7
RL: PRP (Properties)
(of monoclonal IgA, of mouse)
RN 121986-62-7 CAPLUS
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-

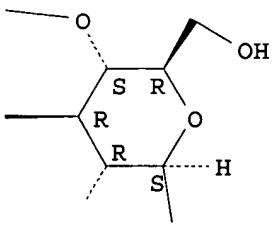
(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[6-deoxy-α-L-galactopyranosyl-(1→6)]-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

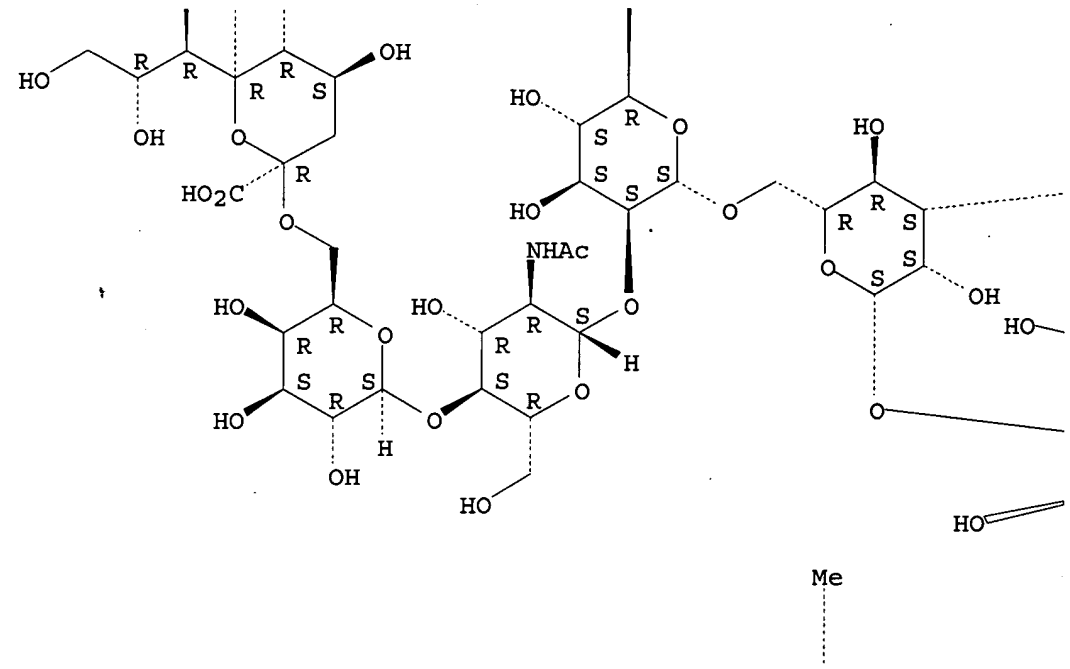
PAGE 1-A



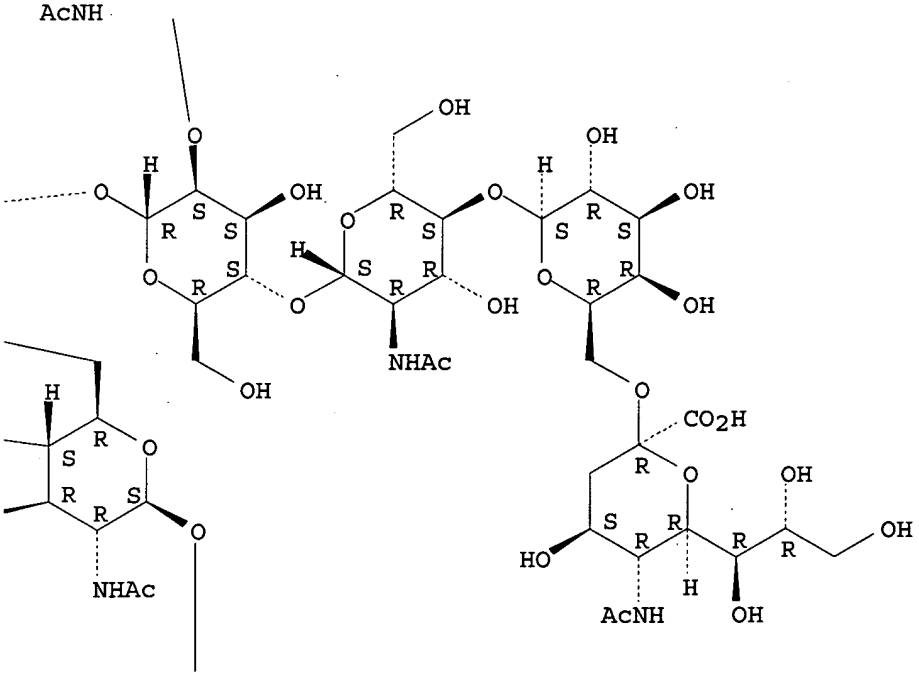
PAGE 1-B



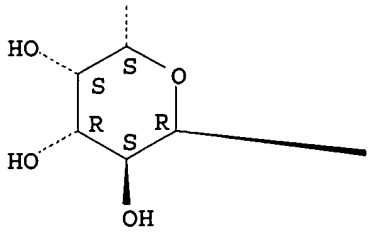
PAGE 2-A



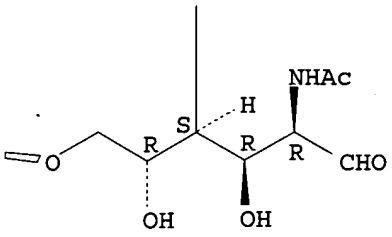
PAGE 2-B



PAGE 3-A



PAGE 3-B



L4 ANSWER 16 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1991:243371 CAPLUS
DOCUMENT NUMBER: 114:243371
TITLE: Structure determination of the glycans of human-serum α1-antichymotrypsin using proton NMR spectroscopy and deglycosylation by N-glycanase
AUTHOR(S): Laine, Anne; Hachulla, Eric; Strecker, Gerard; Michalski, Jean Claude; Wieruszeski, Jean Michel
CORPORATE SOURCE: INSERM, Lille, 59045, Fr.
SOURCE: European Journal of Biochemistry (1991), 197(1), 209-15
CODEN: EJBCAI; ISSN: 0014-2956
DOCUMENT TYPE: Journal
LANGUAGE: English

AB α1-Antichymotrypsin purified from normal human serum was separated by affinity chromatog. into 3 microheterogeneous forms on a Con A-Sepharose column: a pass-through (peak 1), a retarded (peak 2), and a bound form (peaks 3 + 4). For each form the asparagine-linked carbohydrate chains were liberated as oligosaccharides by hydrazinolysis, submitted to reduction with NaBH4 after re-N-acetylation and further separated by affinity chromatog. on a Con -A-Sepharose column. The complete primary structure of the glycans was determined by high-resolution 1H-NMR spectroscopy. The results indicated the presence of disialyl diantennary and of trisialyl triantennary type glycan structures, the latter being accompanied by traces of disialylated triantennary oligosaccharide. The N-glycanase was used for the deglycosylation of the unfractionated α1-antichymotrypsin; the successive removal of the N-linked complex-type oligosaccharide side chains of α1-antichymotrypsin was studied in the presence of detergents. From these expts. it is concluded that α1-antichymotrypsin carries four oligosaccharide side chains. Moreover the results show that the peak 1 contains 4 triantennary glycans, the peak 2 three triantennary and 1 diantennary glycans while the bound peaks 3 + 4 possess, on average, about 1 triantennary and 3 diantennary glycans per mol. Since peak 4 contains mostly diantennary glycans, it can be deduced that in peak 3 there are mols. carrying 2 triantennary and 2 diantennary glycans and others carrying 1 triantennary and 3 diantennary glycans.

IT 83411-87-4
RL: PROC (Process)

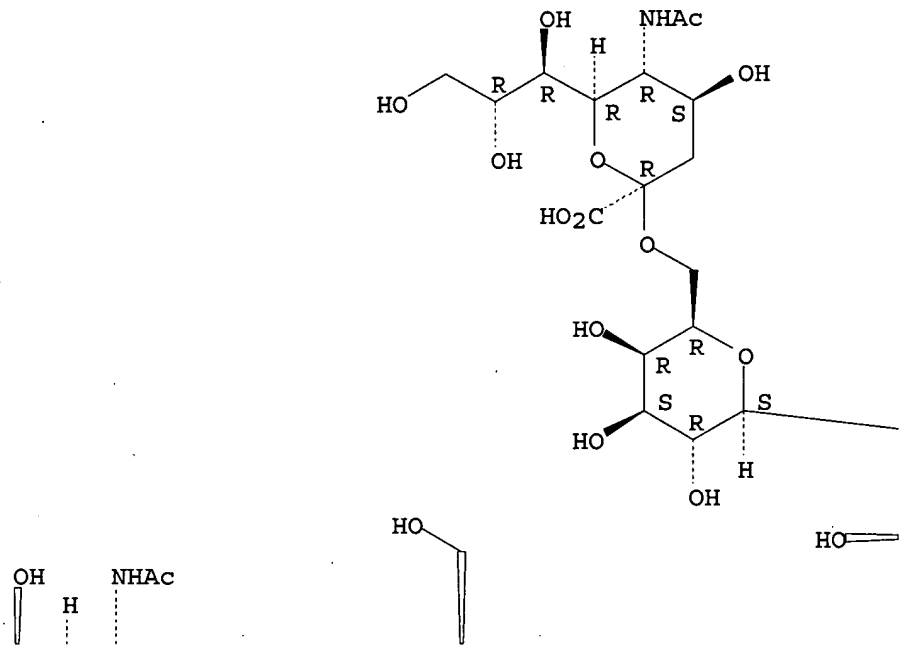
(of antichymotrypsin of human, structure determination of)

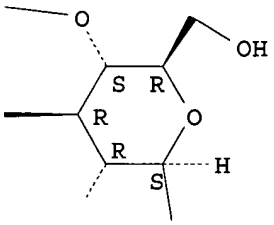
RN 83411-87-4 CAPLUS

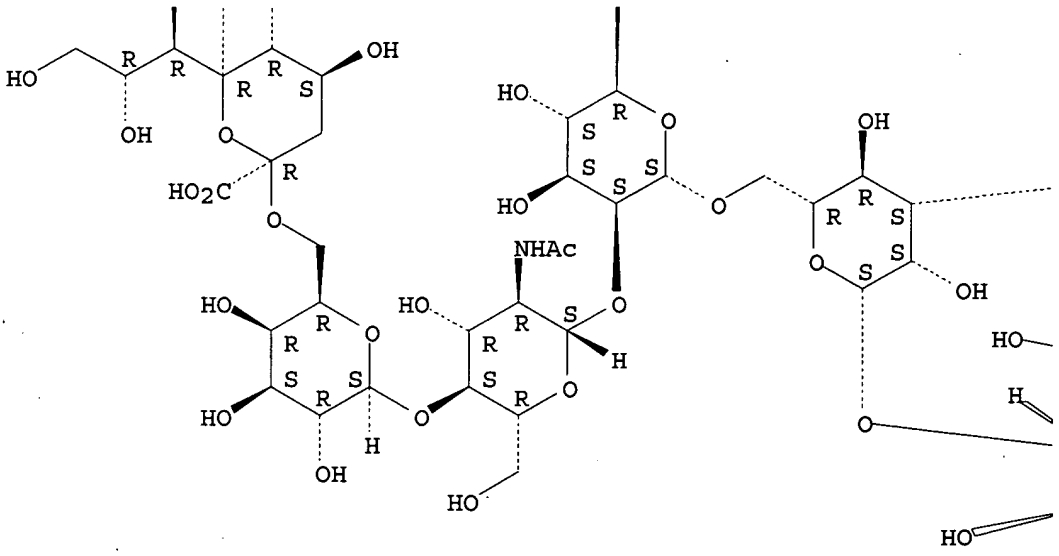
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

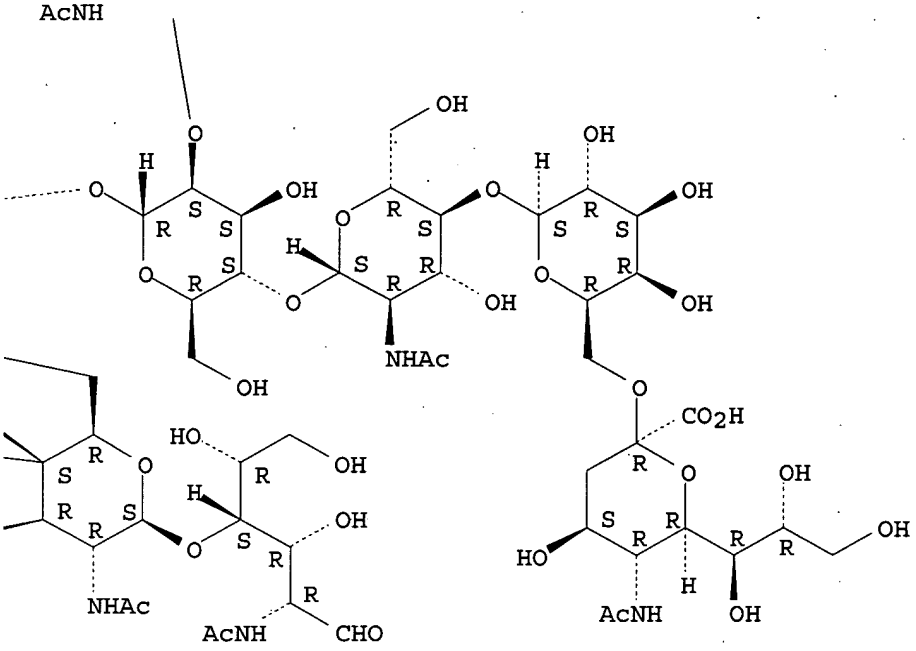
Absolute stereochemistry.

PAGE 1-A









L4 ANSWER 17 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1989:551322 CAPLUS
DOCUMENT NUMBER: 111:151322
TITLE: 4-O-Acetyl-N-acetylneuraminic acid in the N-linked carbohydrate structures of equine and guinea pig α2-macroglobulins, potent inhibitors of influenza virus infection
AUTHOR(S): Hanaoka, Kenji; Pritchett, Thomas J.; Takasaki, Seiichi; Kochibe, Naohisa; Sabesan, Subraminiam; Paulson, James C.; Kobata, Akira
CORPORATE SOURCE: Inst. Med. Sci., Univ. Tokyo, Tokyo, 108, Japan
SOURCE: Journal of Biological Chemistry (1989), 264(17), 9842-9
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English

AB To investigate the mol. basis of the differential ability of human, equine, and guinea pig α2-macroglobulins to inhibit hemagglutination and infectivity of a human influenza virus, A/Memphis/102/72 (H3N2), the structures of oligosaccharides released from the three glycoproteins by hydrazinolysis were analyzed comparatively. Approx. seven to eight sugar chains were released from each subunit of two potent inhibitors (equine and guinea pig α2-macroglobulins) and a weak inhibitor (human α2-macroglobulin). More than 70% of the oligosaccharides contained sialic acids in all three cases. Structural anal. of these sialooligosaccharides revealed that all of the three glycoproteins contain biantennary oligosaccharides with one and two sialic acids as major sugar chains (70-80% of total sugar chains). Four percent of the biantennary oligosaccharides from equine sample, 10% of those from guinea pig, and 24% of those from human contain a fucosylated trimannosyl core. No triantennary oligosaccharide was detected in equine α2-macroglobulin. However, human and guinea pig α2-macroglobulins contain both fucosylated and nonfucosylated triantennary oligosaccharides. All sialic acid residues occur as the Siaα2→6Gal group. The one unique feature of the carbohydrate groups of equine and guinea pig α2-macroglobulins was the presence of 4-O-acetyl-N-acetylneuraminic acid (4-O-Ac-Neu5Ac) as 30-50% of the total sialic acids, while human α2-macroglobulin contained only Neu5Ac. However, 4-O-Ac-Neu5Ac is

not responsible for the potent inhibition of influenza virus infection and hemagglutination as will be described (Pritchett, T. J., and Paulson, J. C., 1989).

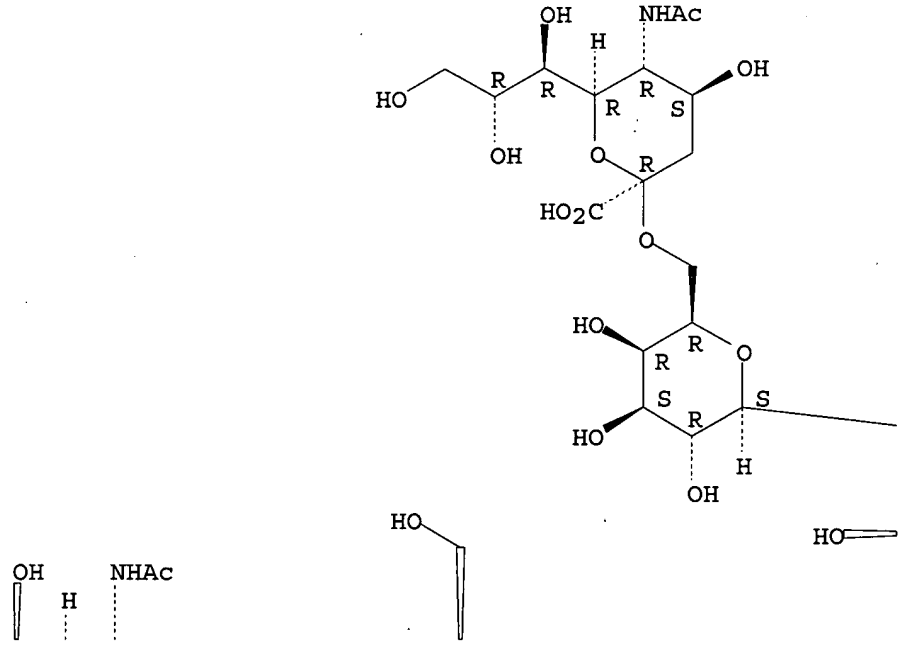
IT 83411-87-4 83411-87-4D, 4-O-acetyl derivs.
121986-62-7 121986-62-7D, 4-O-acetyl derivs.
RL: BIOL (Biological study)
(of α2-macroglobulins, of human and horse and guinea pig)

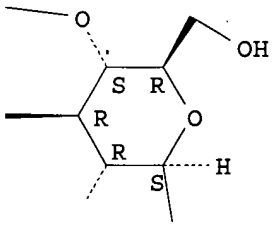
RN 83411-87-4 CAPLUS

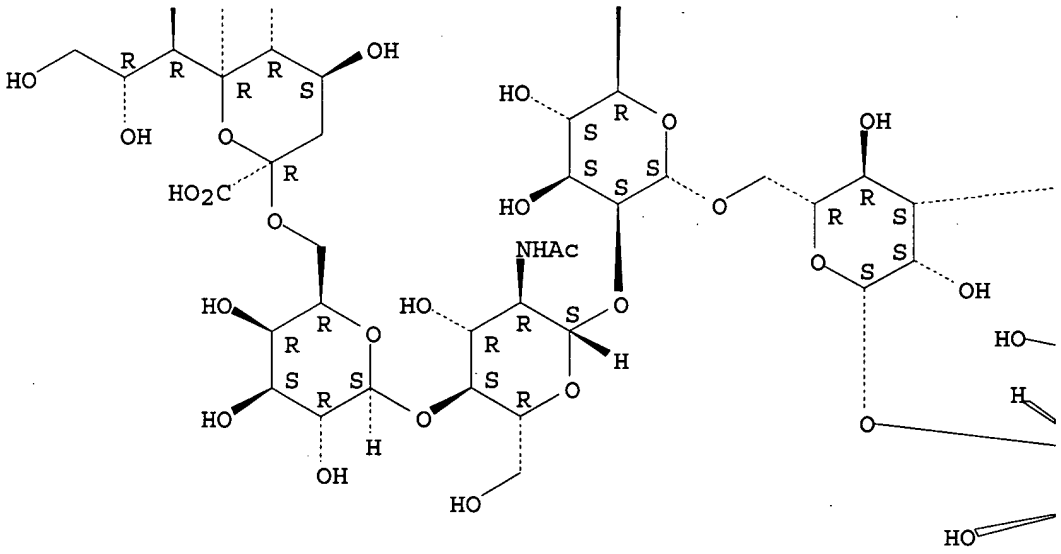
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

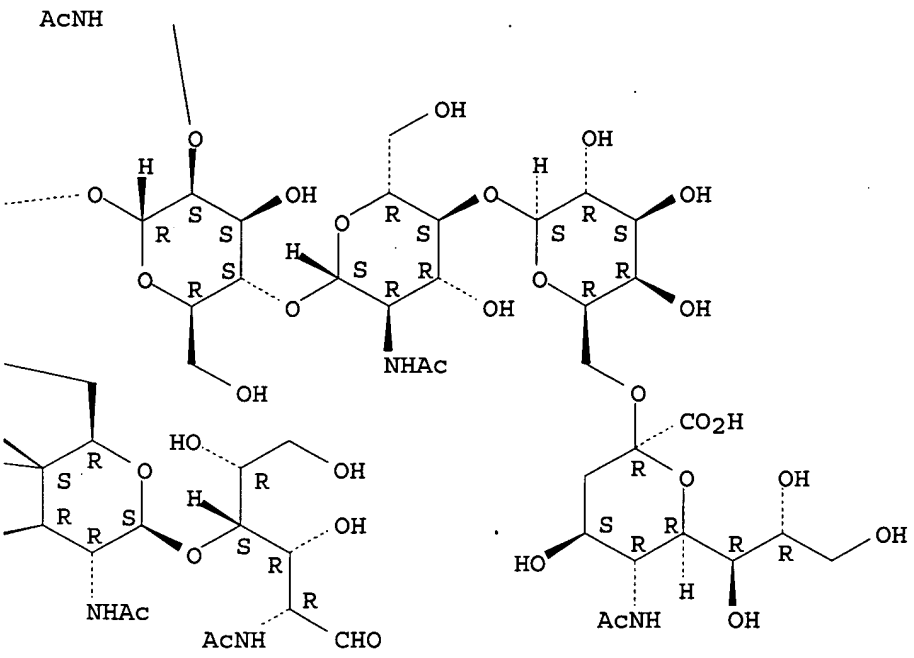
Absolute stereochemistry.

PAGE 1-A







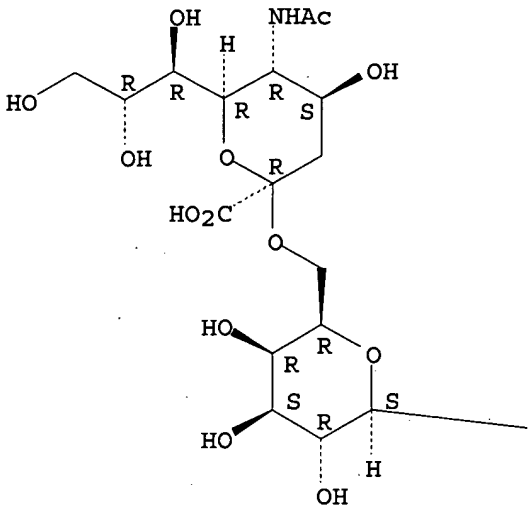


RN 83411-87-4 CAPLUS

CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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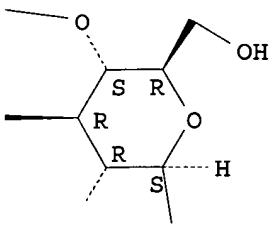
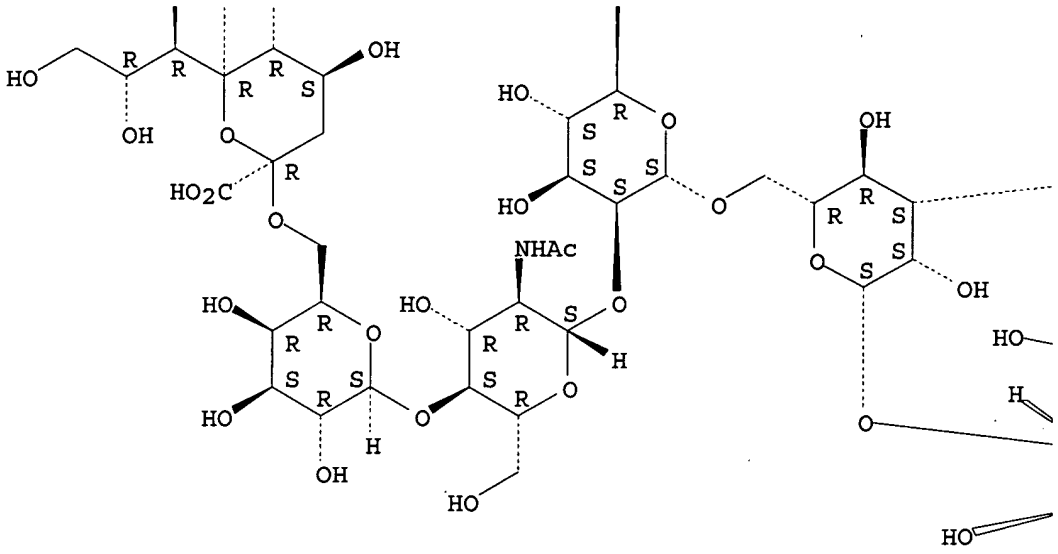


PAGE 2-A



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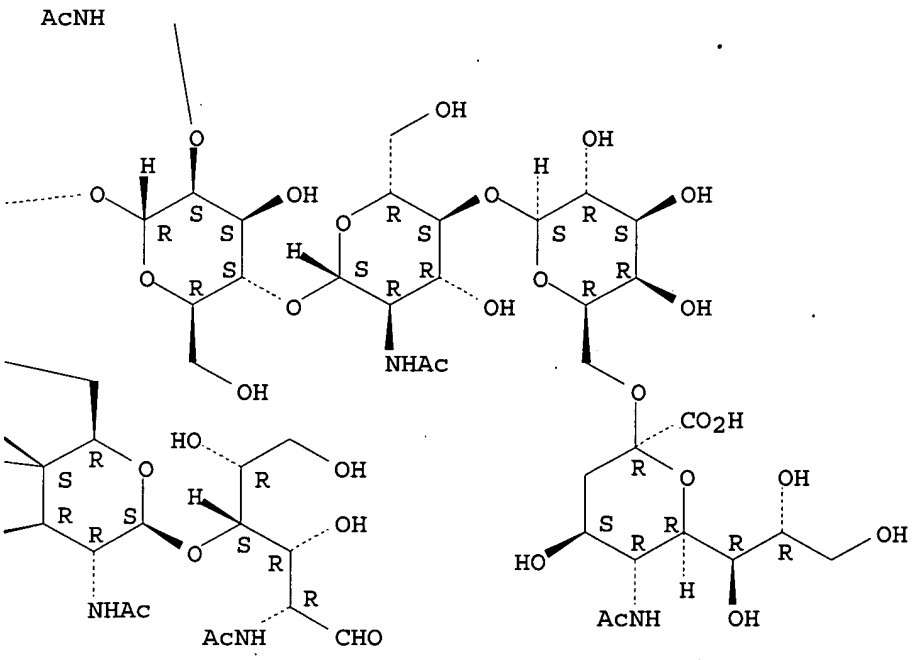
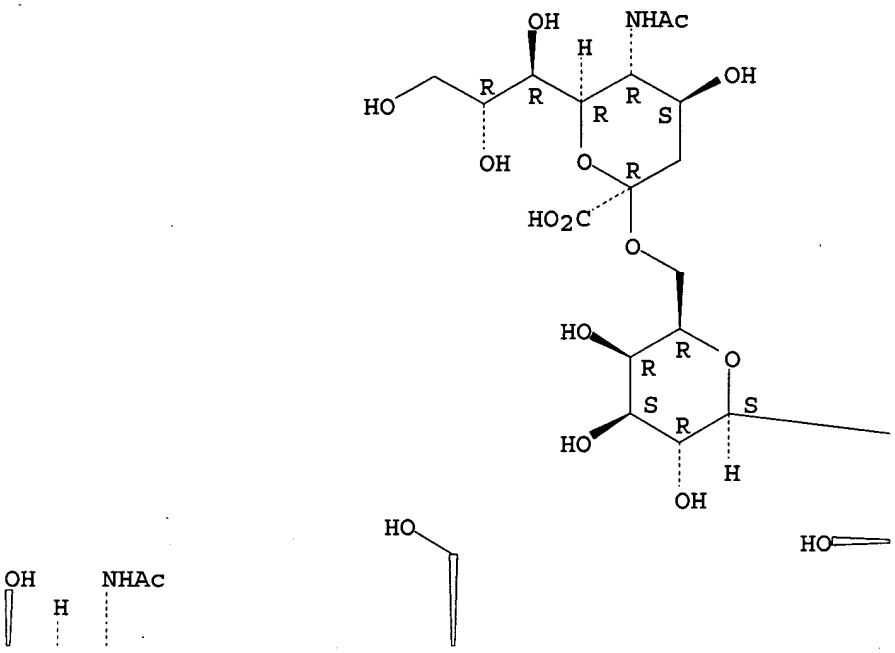


RN 121986-62-7 CAPLUS

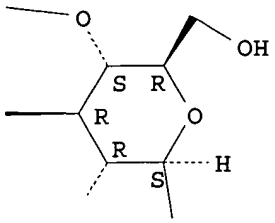
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[6-deoxy-α-L-galactopyranosyl-(1→6)]-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

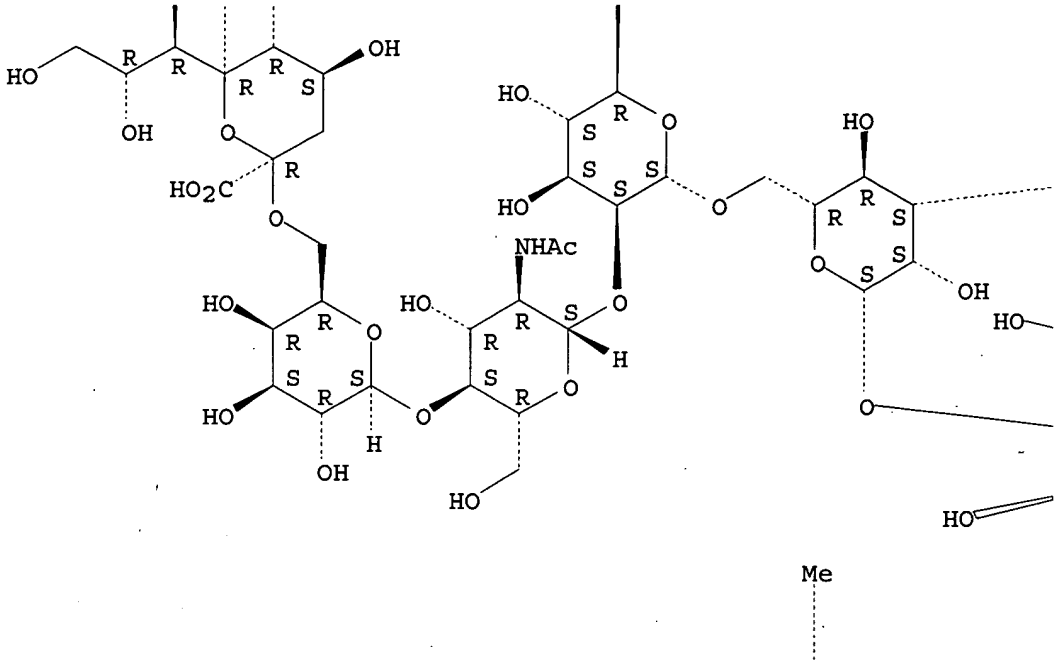
PAGE 1-A



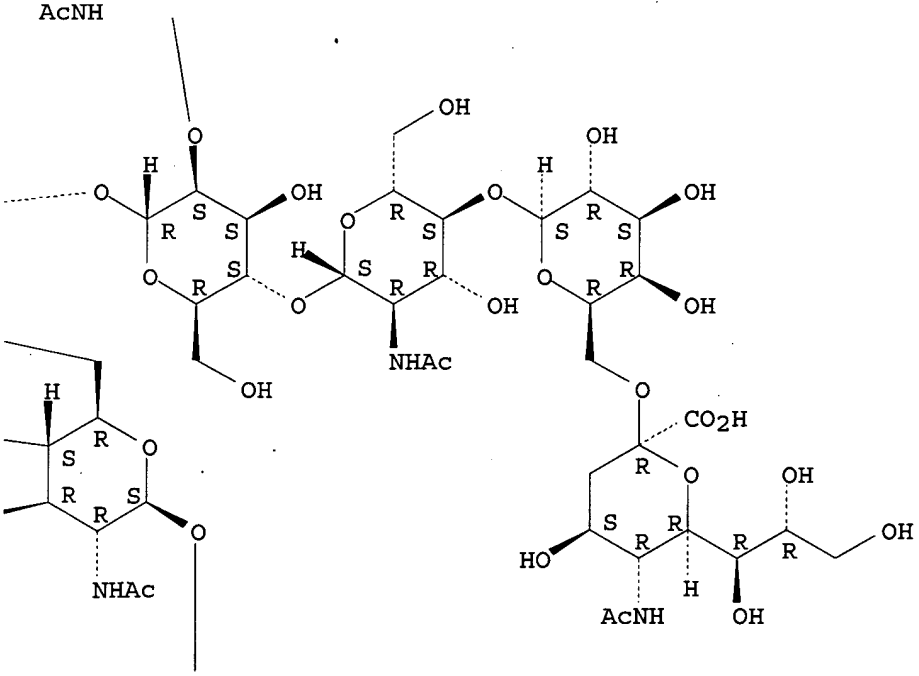
PAGE 1-B



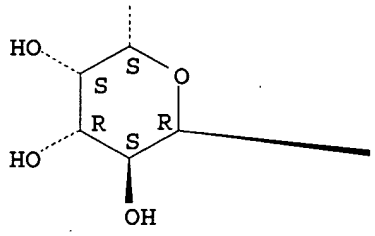
PAGE 2-A



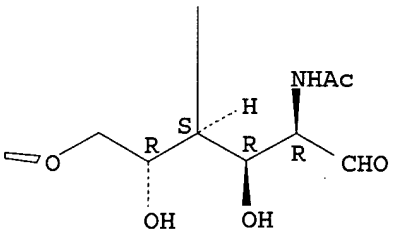
PAGE 2-B



PAGE 3-A



PAGE 3-B

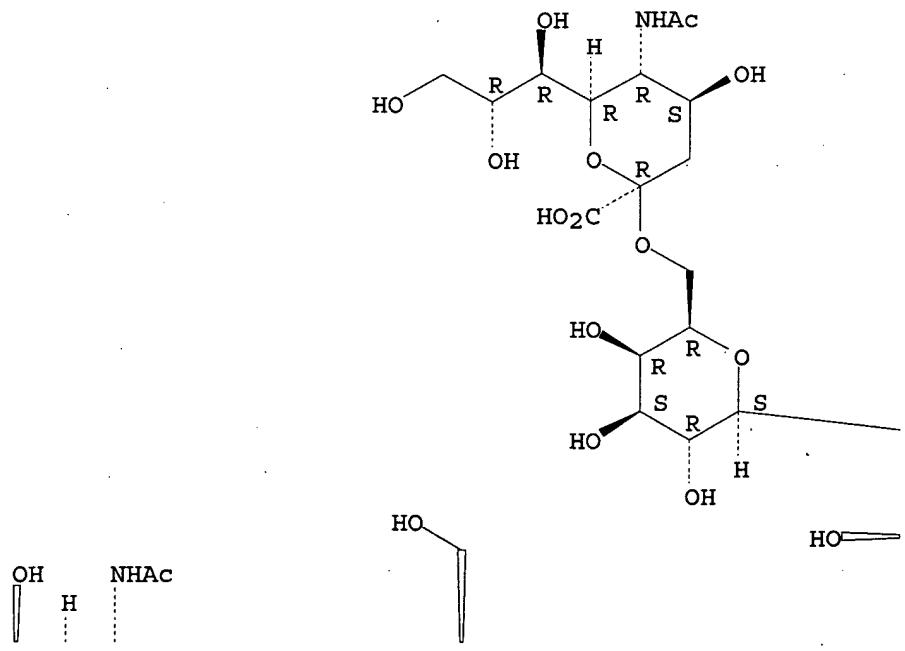


RN 121986-62-7 CAPLUS

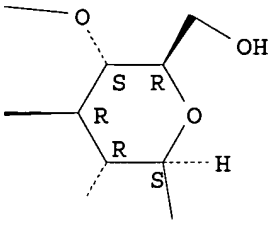
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[6-deoxy-α-L-galactopyranosyl-(1→6)]-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



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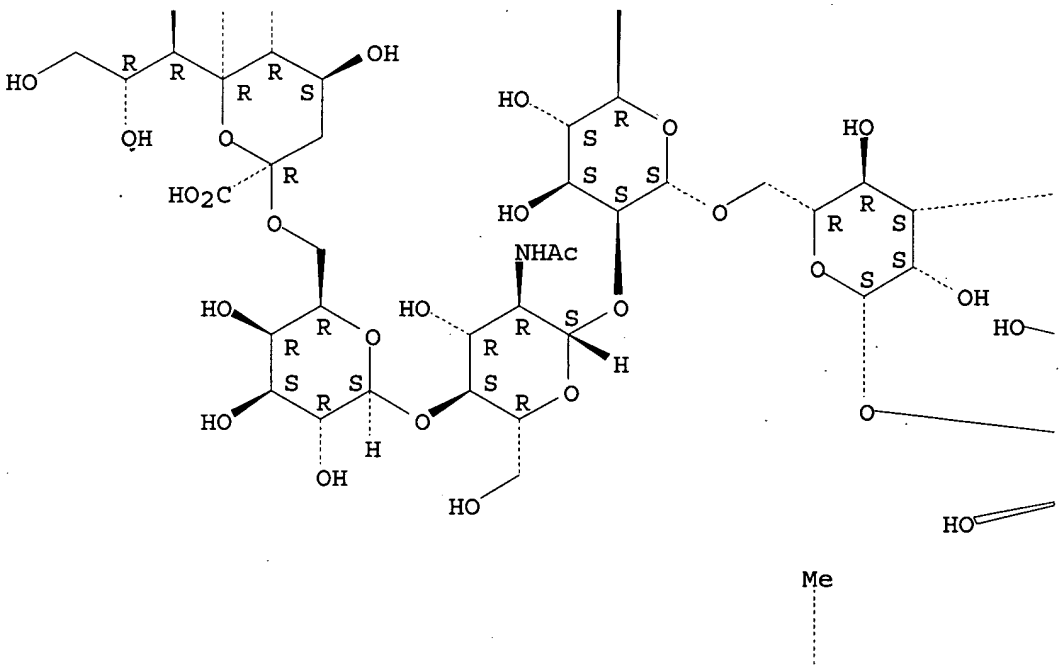
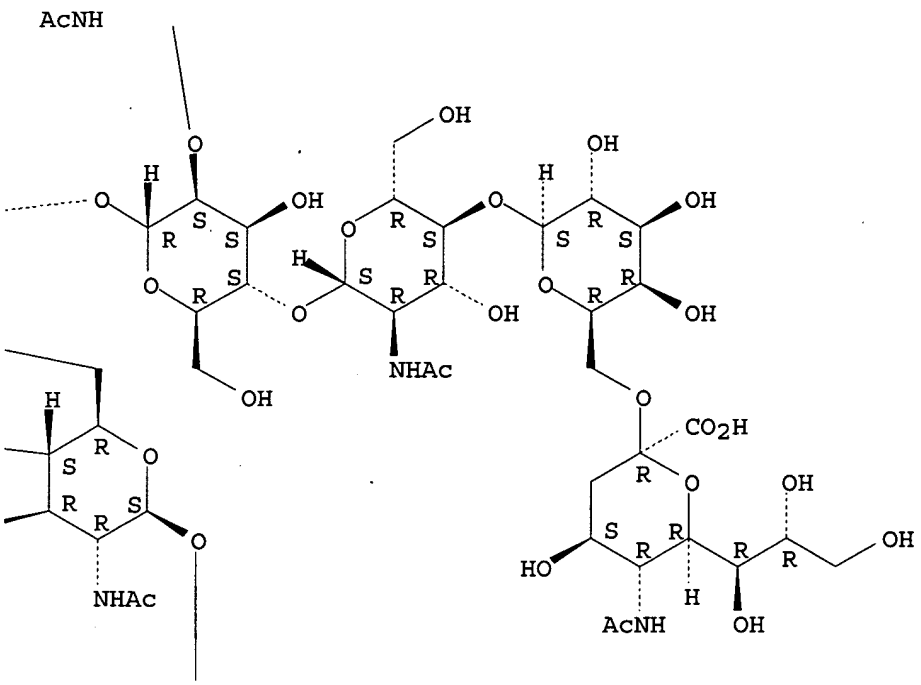
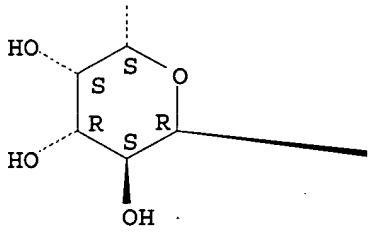


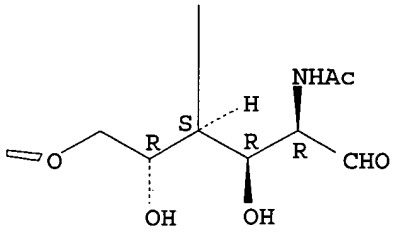
PAGE 2-B



PAGE 3-A



PAGE 3-B



L4 ANSWER 18 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1989:436193 CAPLUS

DOCUMENT NUMBER: 111:36193

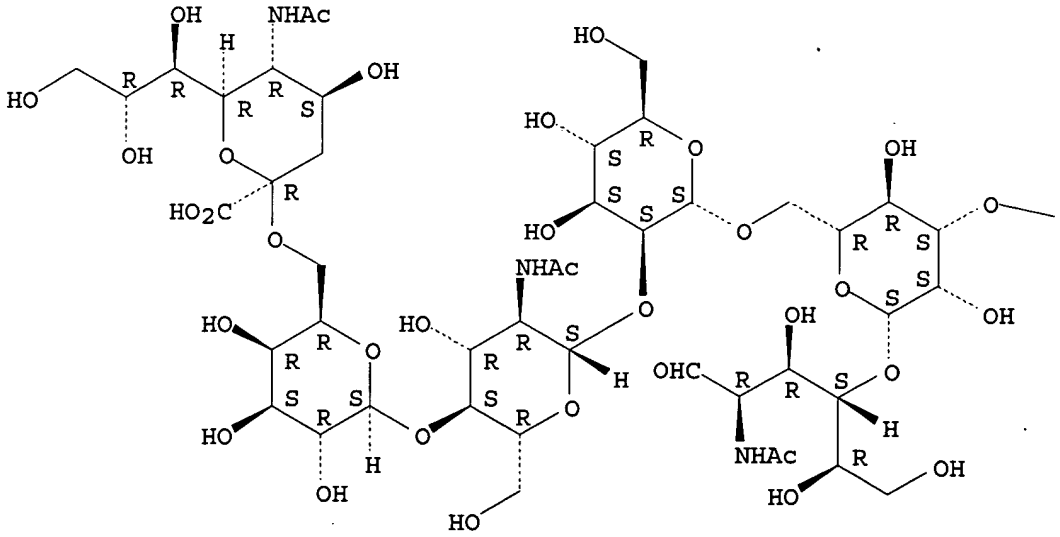
TITLE: Isolation and structural characterization of twenty-one sialyloligosaccharides from galactosialidosis urine. An intact N,N'-diacetylchitobiose unit at the reducing end of a diantennary structure

AUTHOR(S): Van Pelt, Johannes; Hard, Karl; Kamerling, Johannis P.; Vliegenthart, Johannes F. G.; Reuser, Arnold J.

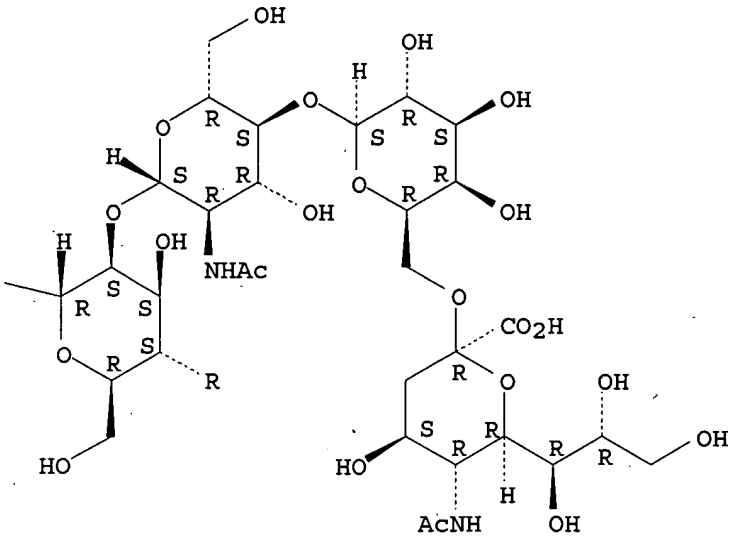
J.; Galjaard, Hans
CORPORATE SOURCE: Dep. Bio-Org. Chem., Utrecht Univ., Utrecht, 3508 TB, Neth.
SOURCE: Biological Chemistry Hoppe-Seyler (1989), 370(3), 191-203
CODEN: BCHSEI; ISSN: 0177-3593
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Galactosialidosis urine was fractionated by gel-permeation chromatog. on Bio-Gel P-6. The obtained sialic acid-containing carbohydrate fractions were purified by reversed-phase chromatog. and separated according to charge by medium-pressure anion-exchange chromatog. on Mono Q. The Mono Q fractions, being mixts. of sialyloligosaccharides differing mainly in sialic acid-linkage type (α2-3/α2-6), were subfractionated by HPLC on Li-chrosorb-NH2. The purified compds. were analyzed by 500-MHz 1H-NMR spectroscopy. Twenty-one fully and partially sialylated N-acetyllactosamine-type compds. include mono-, di-, tri-, and tetra-antennary structures. All structures have the sequence Manβ1-4GlcNAc at the reducing terminus in common, except one diantennary structure bearing an intact N,N'-diacetylchitobiose unit at the reducing end, which is a new feature in human glycoproteinosis urine.
IT 77967-86-3
RL: ANST (Analytical study)
(isolation and structural characterization of, from galactosialidosis urine of human)
RN 77967-86-3 CAPLUS
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

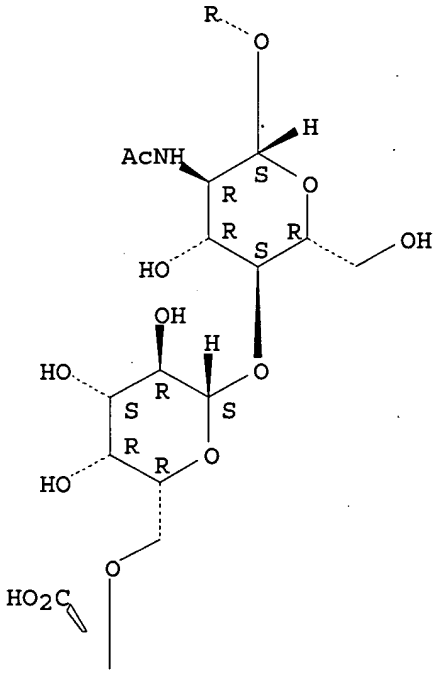
PAGE 1-A

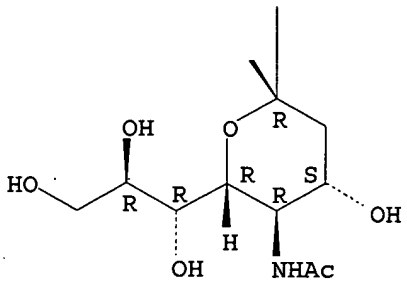


PAGE 1-B



PAGE 2-A





L4 ANSWER 19 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1989:37406 CAPLUS
DOCUMENT NUMBER: 110:37406
TITLE: Storage of sialic acid-containing carbohydrates in the placenta of a human galactosialidosis fetus. Isolation and structural characterization of 16 sialyloligosaccharides
AUTHOR(S): Van Pelt, Johannes; Van Kuik, J. Albert; Kamerling, Johannis P.; Vliegenthart, Johannes F. G.; Van Diggelen, Otto P.; Galjaard, Hans
CORPORATE SOURCE: Dep. Bio-Org. Chem., Utrecht Univ., Utrecht, 3508 TB, Neth.
SOURCE: European Journal of Biochemistry (1988), 177(2), 327-38
CODEN: EJBCAI; ISSN: 0014-2956
DOCUMENT TYPE: Journal
LANGUAGE: English

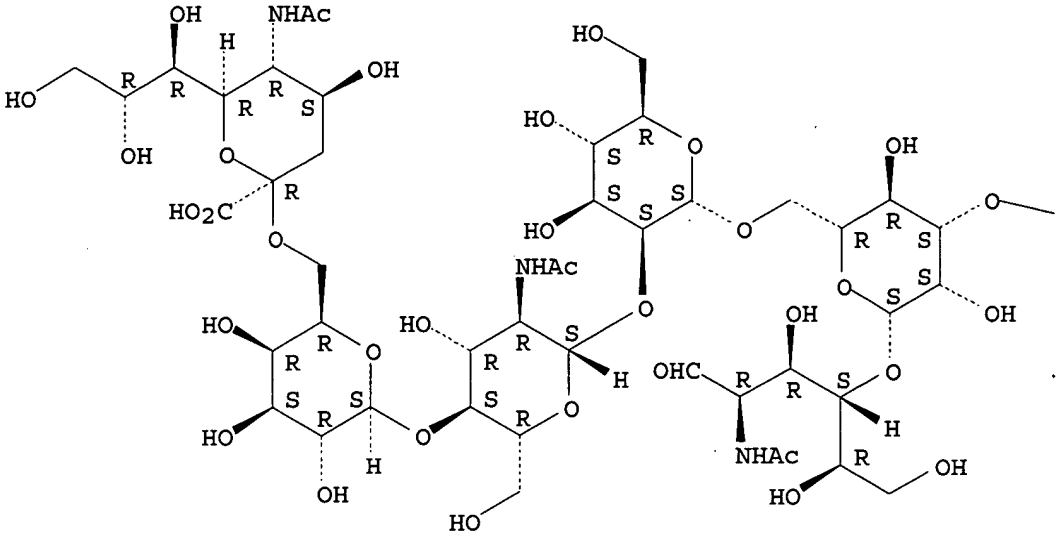
AB Sialyloligosaccharides from the placenta of a human fetus with galactosialidosis, detected by prenatal diagnosis, were isolated by successively gel-permeation chromatog. on Bio-Gel P-6, anion-exchange chromatog. on Mono Q and HPLC on Lichrosorb-NH2. Sixteen sialic acid-containing N-glycosidic N-acetyllactosamine type of structures were identified by sugar anal. and 500-MHz 1H-NMR spectroscopy. The fully sialylated oligosaccharides differ from each other in the type of branching (mono-, di-, tri-, tri'- and tetra-antennary) or sialic acid linkage types (α2-3/α2-6). The structures of the isolated carbohydrates, including 6 novel structures are presented.

IT 77967-86-3
RL: BIOL (Biological study)
(of placenta, in galactosialidosis in human fetus, structure of)

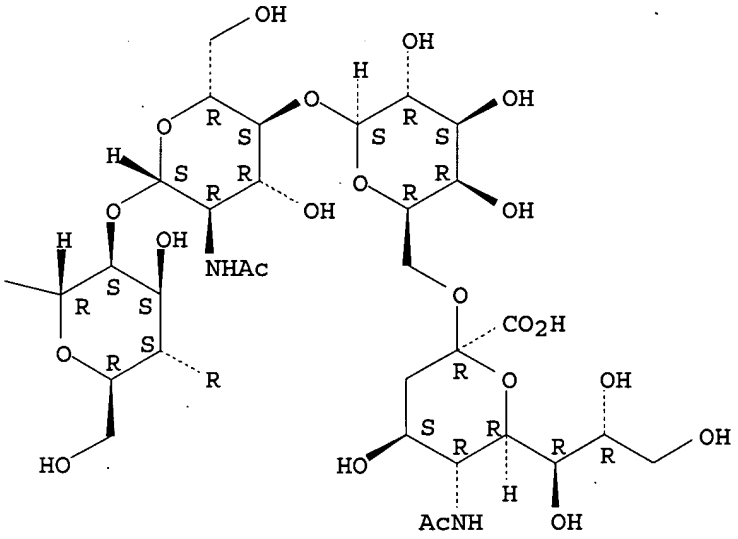
RN 77967-86-3 CAPLUS
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

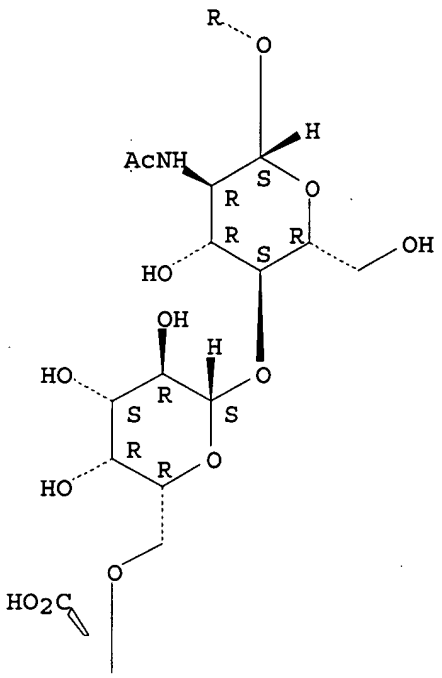
PAGE 1-A



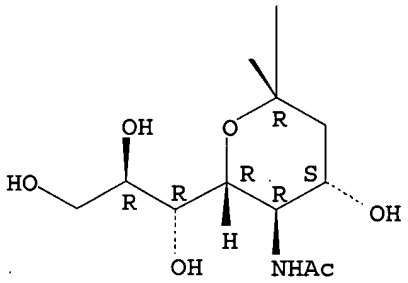
PAGE 1-B



PAGE 2-A



PAGE 3-A



L4 ANSWER 20 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1989:20103 CAPLUS
DOCUMENT NUMBER: 110:20103
TITLE: The asparagine-linked oligosaccharides on bovine fetuin. Structural analysis of N-glycanase-released oligosaccharides by 500-megahertz proton NMR spectroscopy
AUTHOR(S): Green, Eric D.; Adelt, Gabriela; Baenziger, Jacques U.; Wilson, Susanne; Van Halbeek, Herman
CORPORATE SOURCE: Med. Sch., Washington Univ., St. Louis, MO, 63110, USA
SOURCE: Journal of Biological Chemistry (1988), 263(34), 18253-68
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The structures of the entire population of sialylated asparagine-linked oligosaccharides present on bovine fetuin were elucidated. Asparagine-linked oligosaccharides were released from fetuin with N-glycanase, radiolabeled by reduction with NaB[3H]4, and fractionated by anion-exchange HPLC, ion-suppression amine adsorption HPLC, and Con A affinity chromatog. The 3H-labeled oligosaccharide fractions obtained

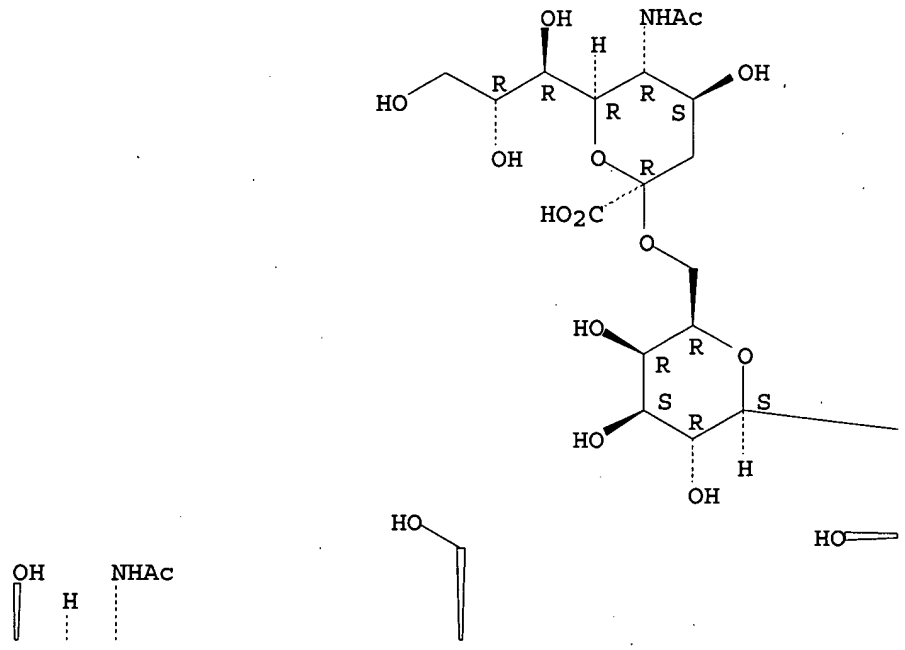
were analyzed by 500-MHz 1H NMR spectroscopy, revealing the presence of 23 distinct oligosaccharide structures. These oligosaccharides differed in extent of sialylation (3% mono-, 35% di-, 54% tri-, and 8% tetrasialylated), number of peripheral branches (17% di- and 83% tribranched), linkage (α2,3 vs. α2,6) and location of sialic acid moieties, and linkage (β1,4 vs. β1,3) of galactose residues. This represents the 1st time that the asparagine-linked oligosaccharides of fetuin have been successfully fractionated and characterized as sialylated species. The sialylated oligosaccharides derived from fetuin were also used to further define the specificities of the lectins leukoagglutinating phytohemagglutinin and Ricinus communis agglutinin I. The behavior of these oligosaccharides during lectin affinity HPLC further establishes the structural features which predominate in the interaction of oligosaccharides with leukoagglutinating phytohemagglutinin and R. communis agglutinin I.

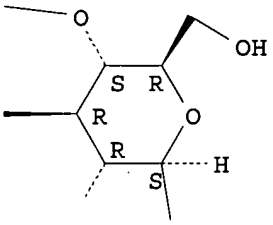
IT 83411-87-4
RL: BIOL (Biological study)
(asparagine-linked, of fetuin, lectin interaction with and NMR assignment of)

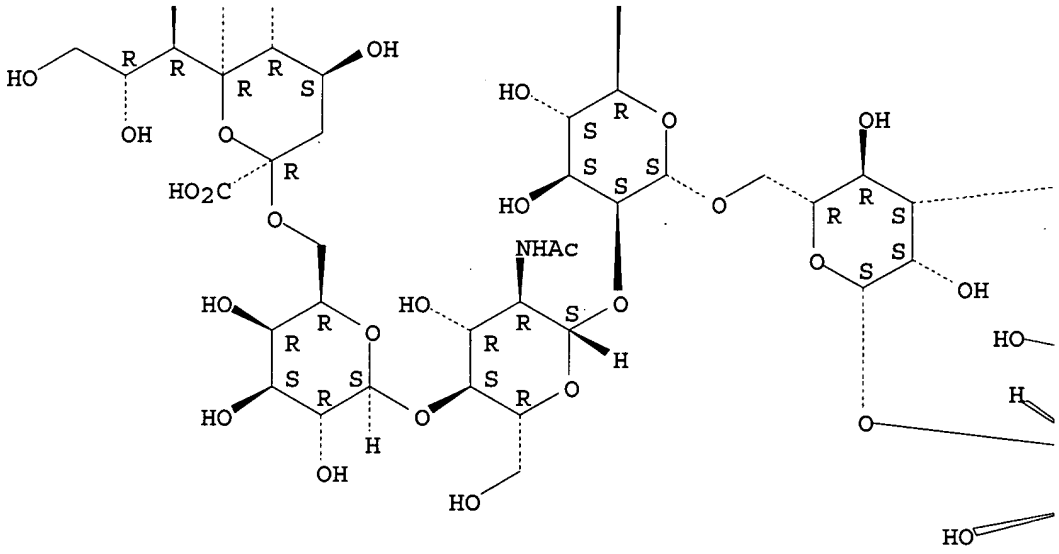
RN 83411-87-4 CAPLUS

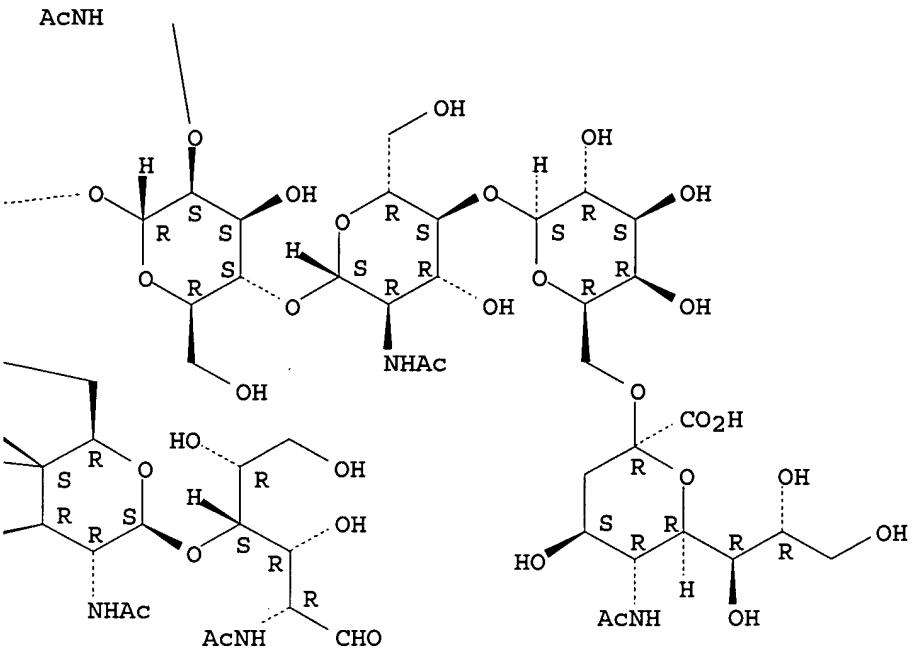
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.









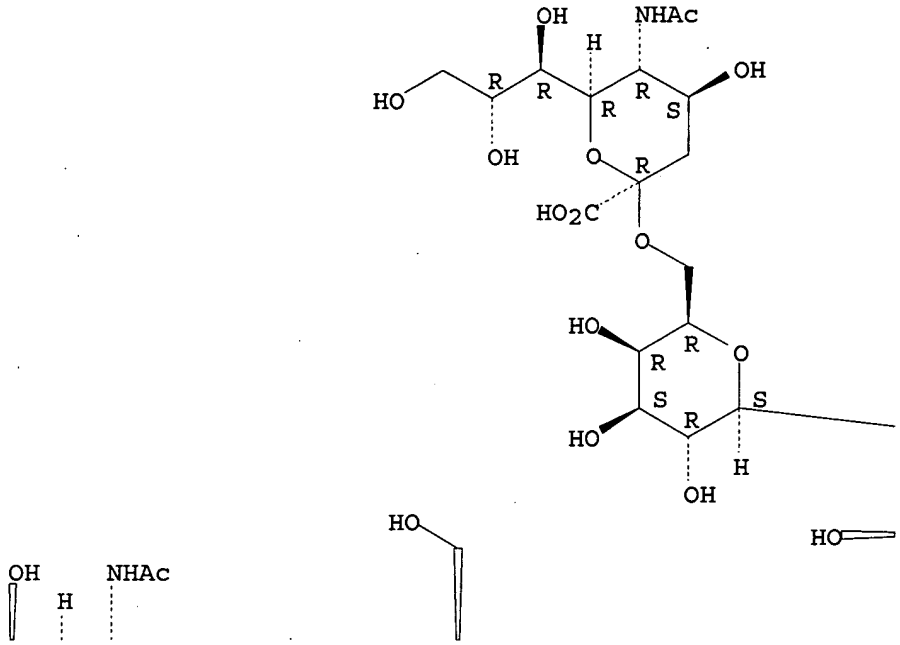
L4 ANSWER 21 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1982:579976 CAPLUS
DOCUMENT NUMBER: 97:179976
TITLE: Characterization of the structural determinants required for the high-affinity interaction of asparagine-linked oligosaccharides with immobilized Phaseolus vulgaris leukoagglutinating and erythroagglutinating lectins
AUTHOR(S): Cummings, Richard D.; Kornfeld, Stuart
CORPORATE SOURCE: Sch. Med., Washington Univ., St. Louis, MO, 63110, USA
SOURCE: Journal of Biological Chemistry (1982), 257(19), 11230-4
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English

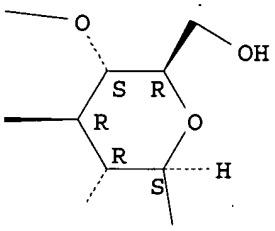
AB The carbohydrate-binding specificities of the leukoagglutinating phytohemagglutinins (L-PHA) and erythroagglutinating phytohemagglutinins (E-PHA) of Phaseolus vulgaris, were investigated by lectin-agarose affinity chromatog. of Asn-linked oligosaccharides. High-affinity binding to E-PHA-agarose occurs only with biantennary glycopeptides containing 2 outer galactose residues and a residue of N-acetylglucosamine linked β1,4 to the β-linked mannose residue in the core. This species is not retarded on L-PHA-agarose. In contrast, tri- and tetraantennary glycopeptides containing outer galactose residues and an α-linked mannose residue substituted at positions C-2 and C-6 are specifically retarded on L-PHA-agarose. Triantennary glycopeptides containing outer galactose residues and an α-linked mannose residue substituted at positions C-2 and C-4 are not retarded on L-PHA-agarose. Addnl., the presence of outer sialic acid residues or a core fucose residue does not influence the behavior of complex glycopeptides on either of these lectin-agarose conjugates. This ability of E-PHA and L-PHA to discriminate between Asn-linked oligosaccharides with various branching patterns can be used in the fractionation of these glycopeptides.

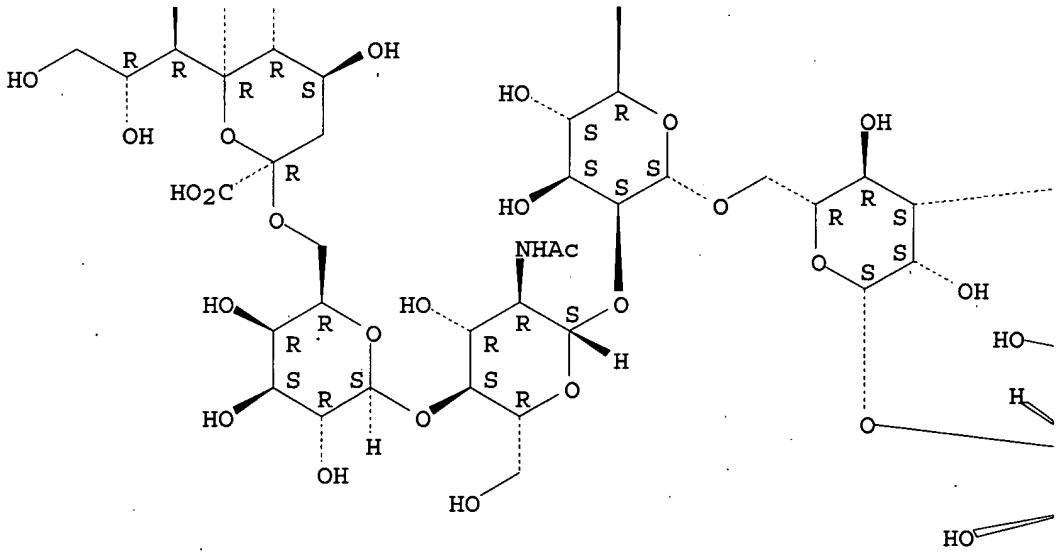
IT 83411-87-4
RL: BIOL (Biological study)
(of asparagine-linked glycopeptide, kidney bean lectin binding to)
RN 83411-87-4 CAPLUS
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-

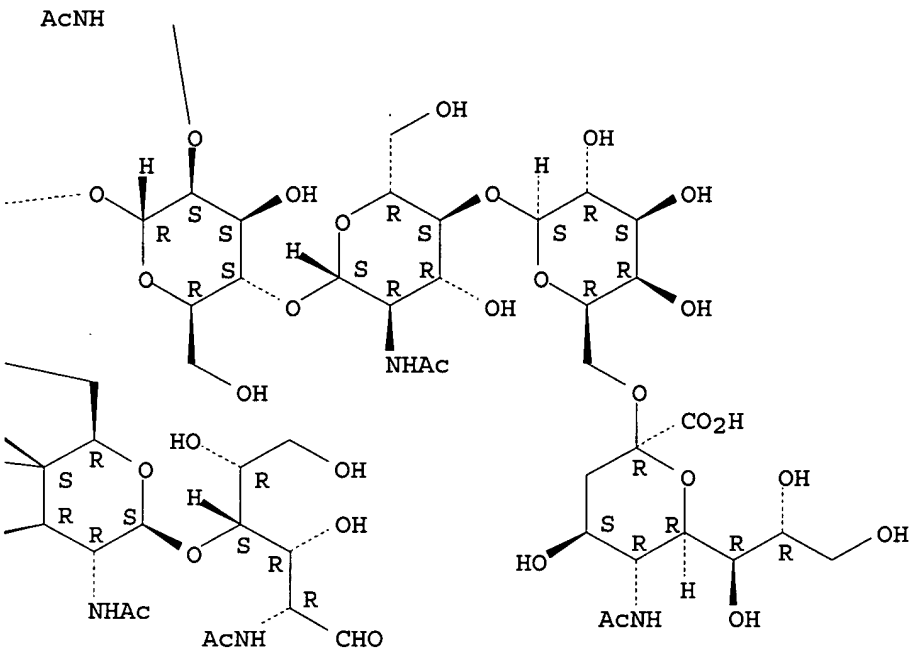
galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.









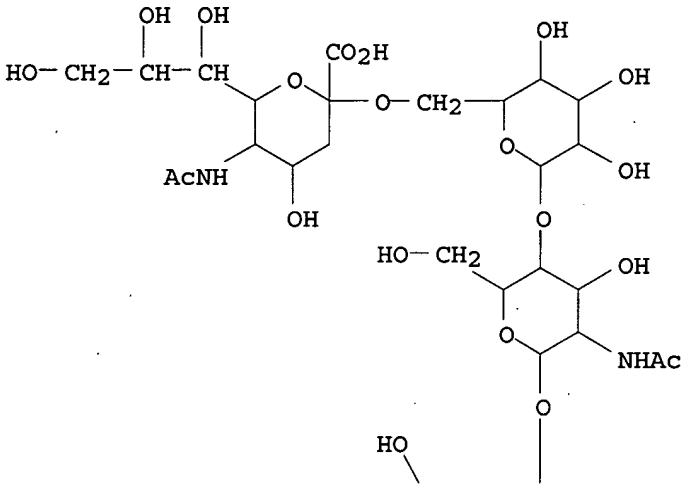
L4 ANSWER 22 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1982:120130 CAPLUS
DOCUMENT NUMBER: 96:120130
TITLE: The asparagine-linked sugar chains of plasma membrane glycoproteins of K-562 human leukemic cells: a comparative study with human erythrocytes
AUTHOR(S): Yoshima, Hideo; Shiraishi, Nobuyuki; Matsumoto, Akira; Maeda, Sakan; Sugiyama, Taketoshi; Kobata, Akira
CORPORATE SOURCE: Sch. Med., Kobe Univ., Hyogo, 650, Japan
SOURCE: Journal of Biochemistry (Tokyo, Japan) (1982), 91(1), 233-46
CODEN: JOBIAO; ISSN: 0021-924X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Oligosaccharides released from the plasma membranes of K-562 cells are of the high mannose type, whereas those from erythrocyte membranes are of large complex type structures. Studies of the acidic oligosaccharides indicated that none of those obtained from K-562 cells contained the β-N-acetylglucosamine residue linked at the C-4 position of the β-mannosyl residue of the trimannosyl core, which occurs in most of the asparagine-linked sugar chains of human erythrocytes. This indicates that the glucosaminyltransferase that forms of the β-D-GlcNAcp-(1→4)-β-D-Manp(1→4) group has not been expressed in K-562 cells.

IT 80968-74-7 80979-74-4 80979-78-8
81024-64-8
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(of leukemia cell line K-562 cell membrane glycoproteins, in human)
RN 80968-74-7 CAPLUS
CN D-Glucitol, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-

β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



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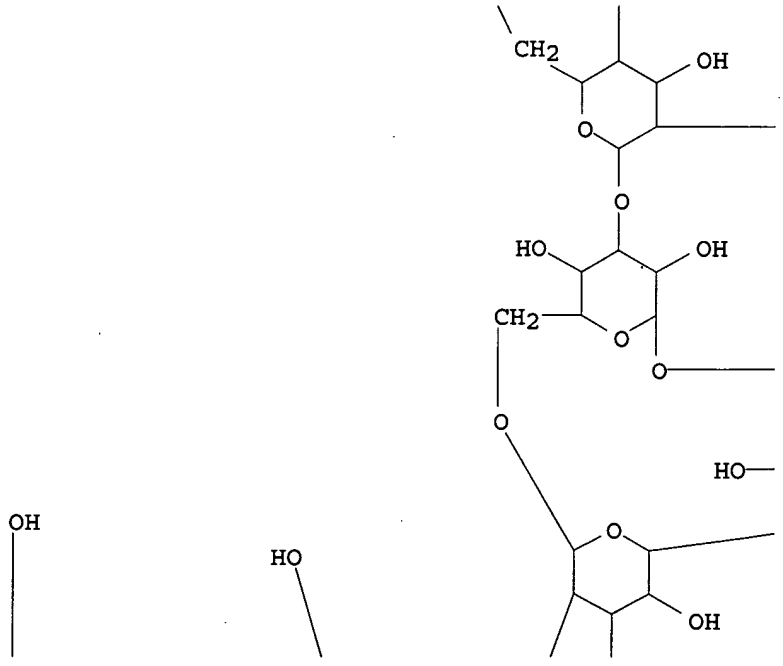
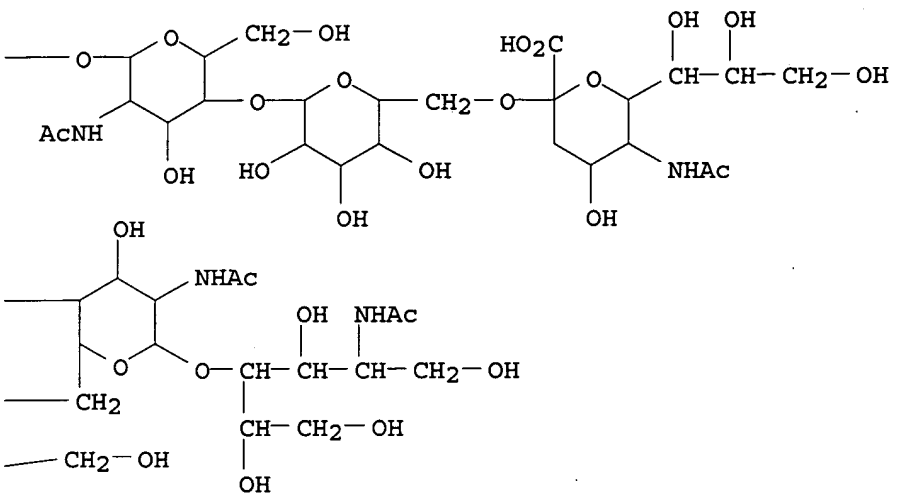
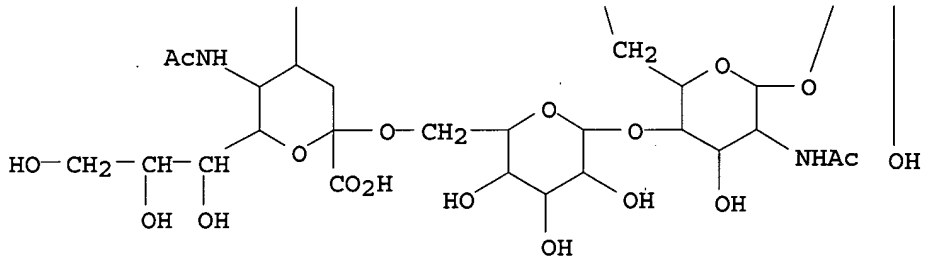


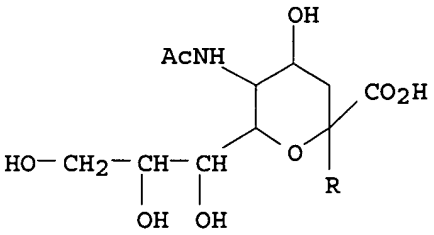


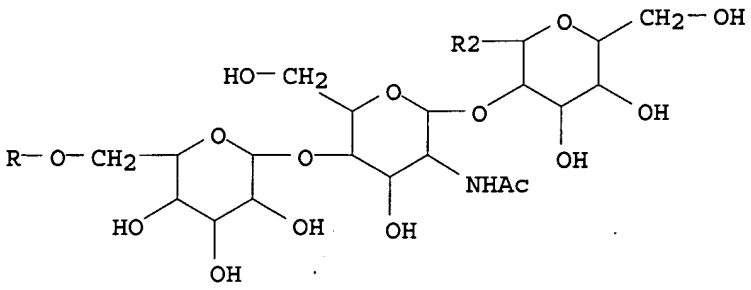


RN 80979-74-4 CAPLUS

CN D-Glucitol, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[6-deoxy-α-L-galactopyranosyl-(1→6)]-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

PAGE 1-A





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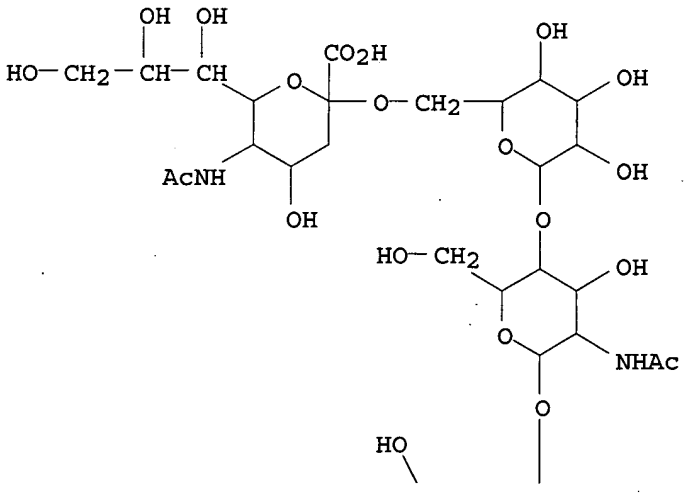

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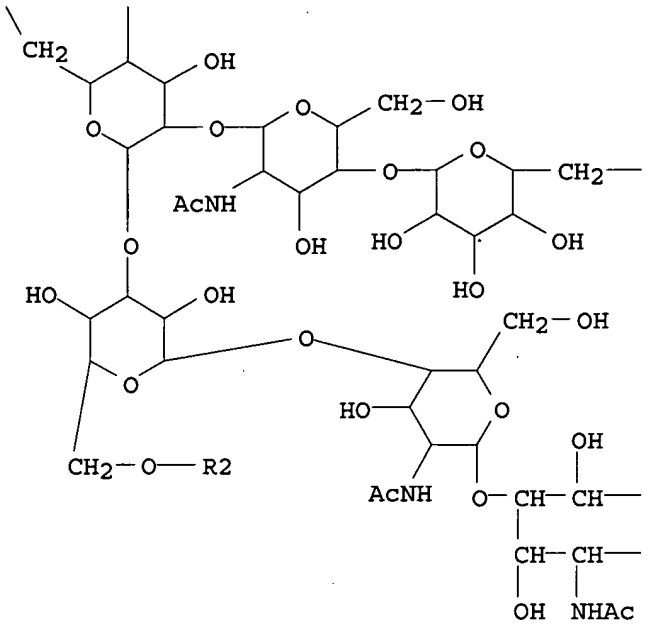

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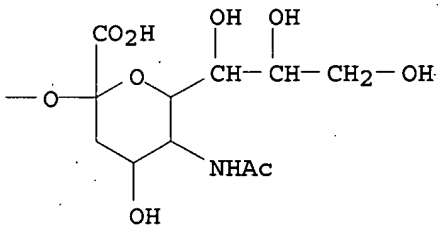
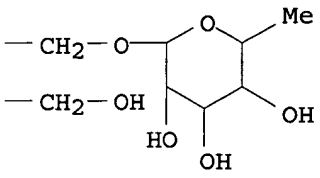
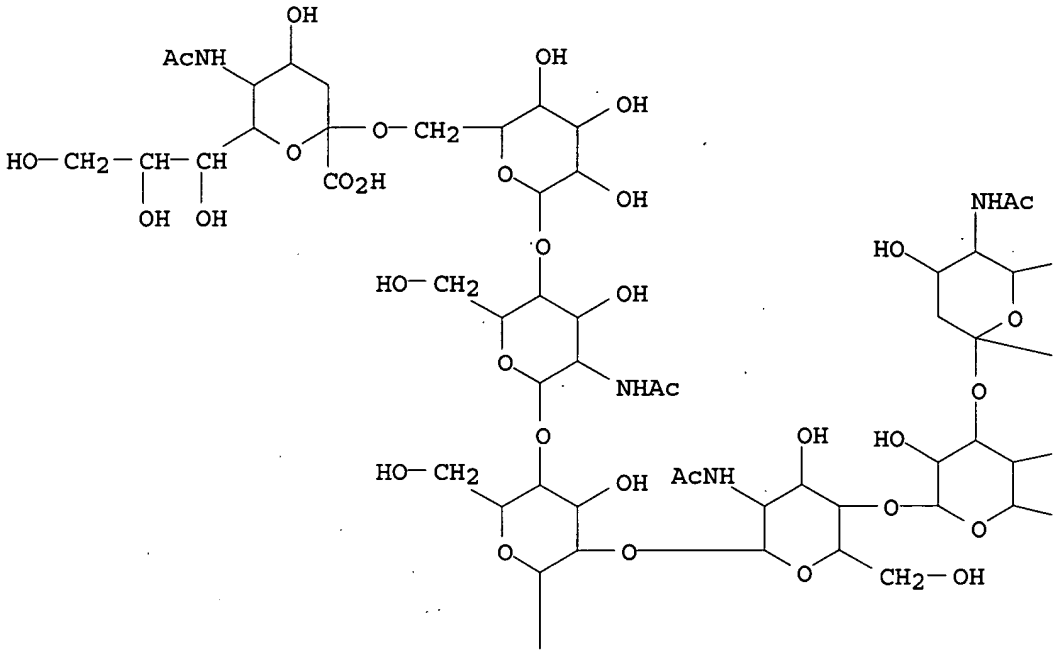




RN 80979-78-8 CAPLUS

CN D-Glucitol, O-(N-acetyl-α-neuraminosyl)-(2→3)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[6-deoxy-α-L-galactopyranosyl-(1→6)]-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



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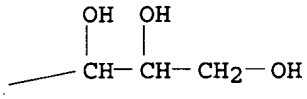

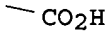

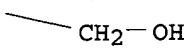

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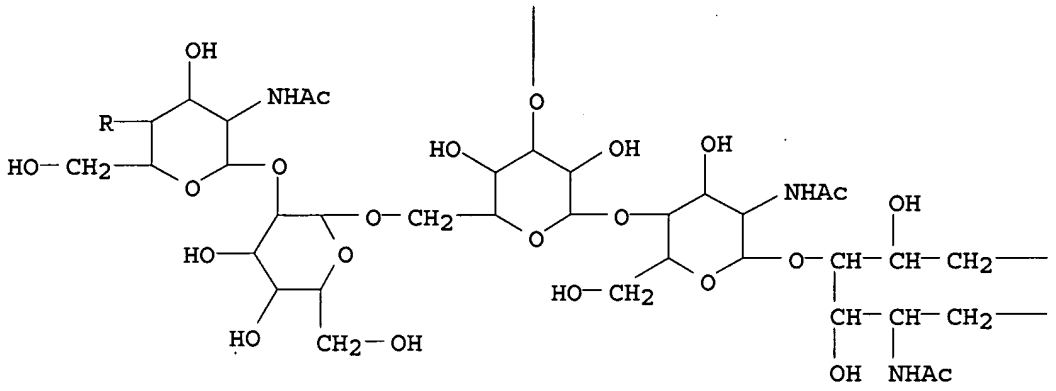

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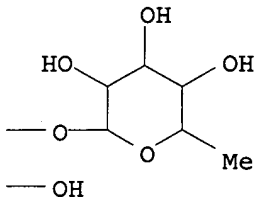

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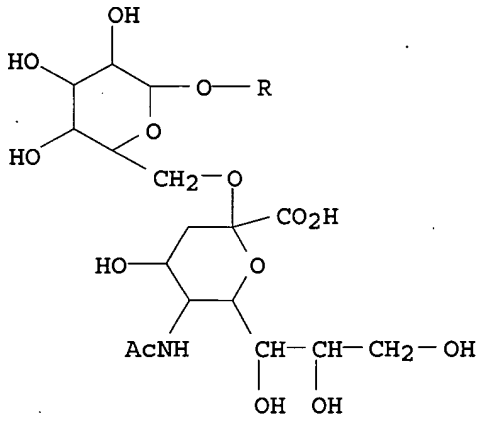
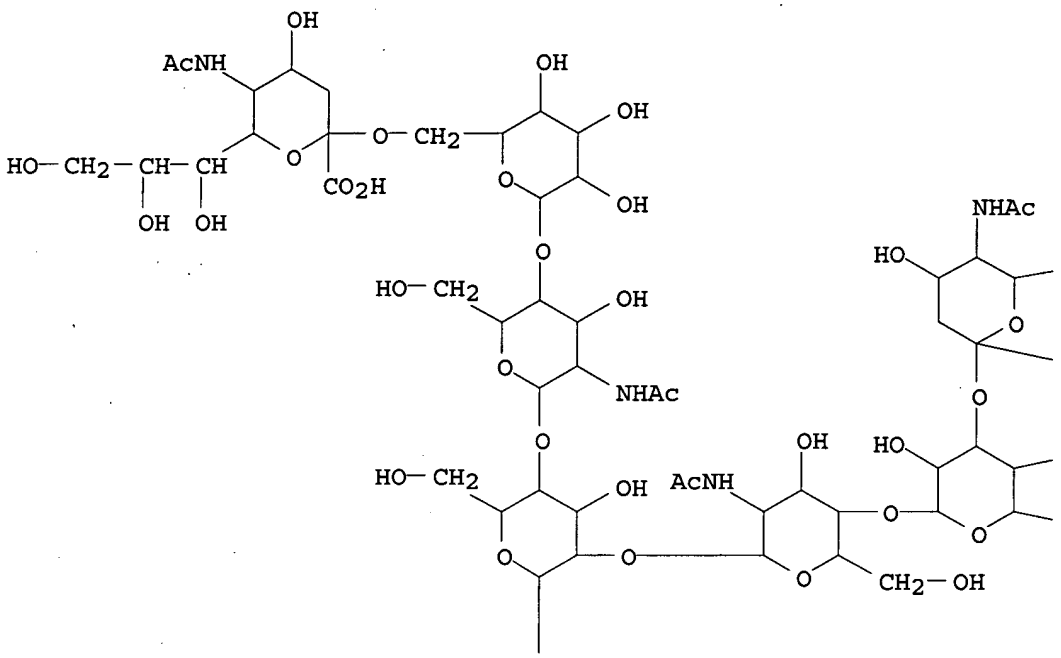


RN 81024-64-8 CAPLUS

CN D-Glucitol, O-(N-acetyl-α-neuraminosyl)-(2→3)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-

glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



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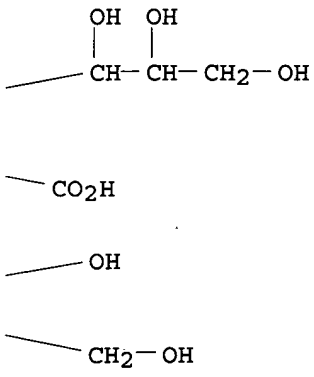

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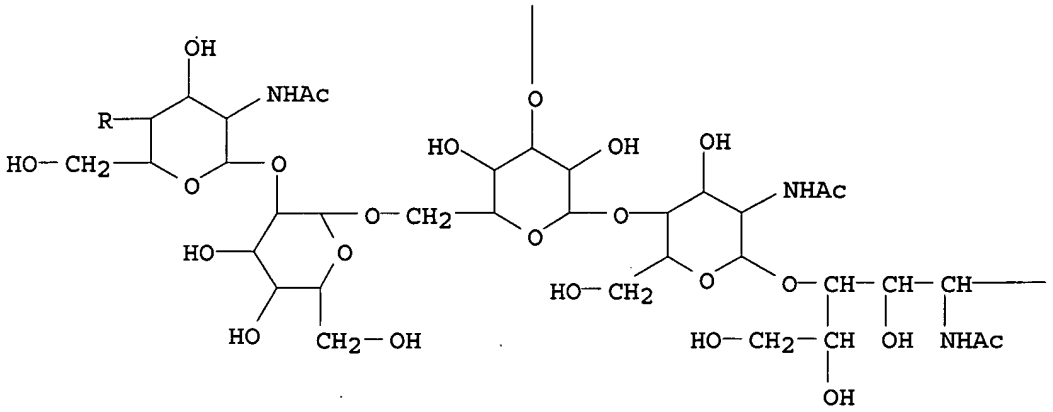
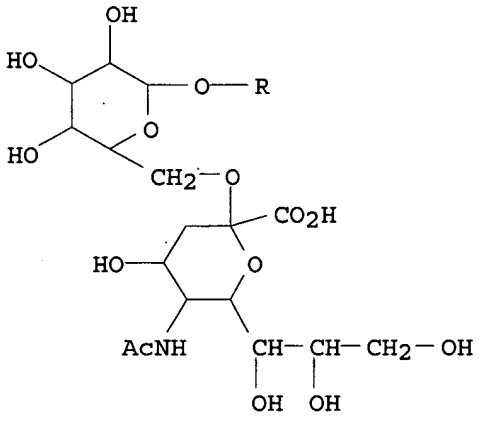


PAGE 2-B

— CH_2 — OH

PAGE 3-A



L4 ANSWER 23 OF 23 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1981:425434 CAPLUS
DOCUMENT NUMBER: 95:25434
TITLE: The applicability of 500-MHz high-resolution proton NMR spectroscopy for the structure determination of carbohydrates derived from glycoproteins
AUTHOR(S): Vliegenthart, Johannes F. G.; Van Halbeek, Herman; Dorland, Lambertus
CORPORATE SOURCE: Dep. Bio-Org. Chem., State Univ. Utrecht, Utrecht,

3522 AD, Neth.
SOURCE: Pure and Applied Chemistry (1981), 53(1), 45-77
CODEN: PACHAS; ISSN: 0033-4545
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The 500-MHz high-resolution 1H-NMR spectra of glycopeptide, oligosaccharide, and oligosaccharide-alditol fragments of glycoproteins were recorded in D2O at room temperature The spectra were valuable for structural elucidation, the key information being found in the resonances of the individual protons of the structural reporter groups. The anomeric form of the reducing end group in an oligosaccharide influences the spectral characteristics of nearby residues: the NMR spectra are superpositions of subspectra of the various anomeric forms of the oligosaccharide.

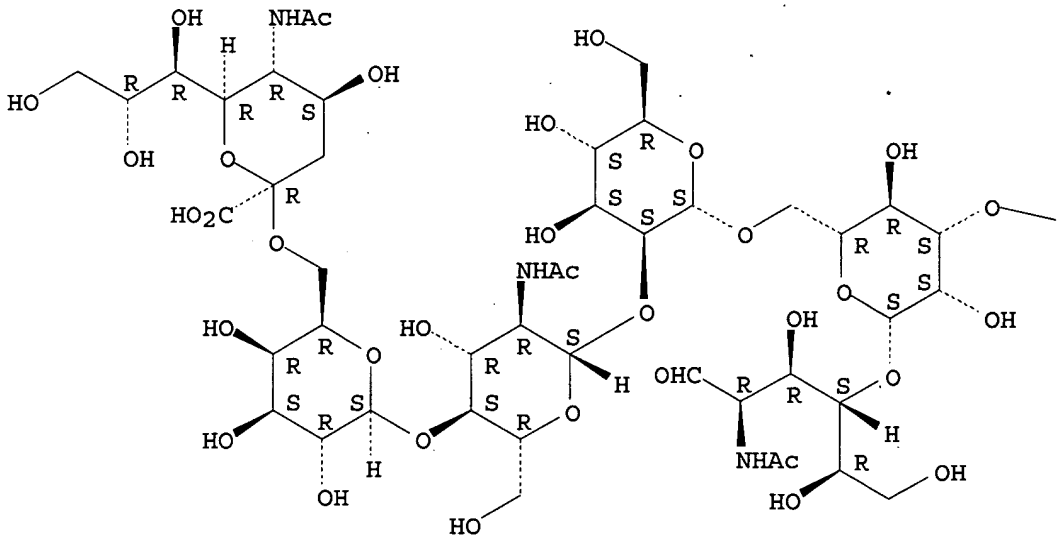
IT 77967-86-3
RL: PRP (Properties)
(NMR of, high-resolution)

RN 77967-86-3 CAPLUS

CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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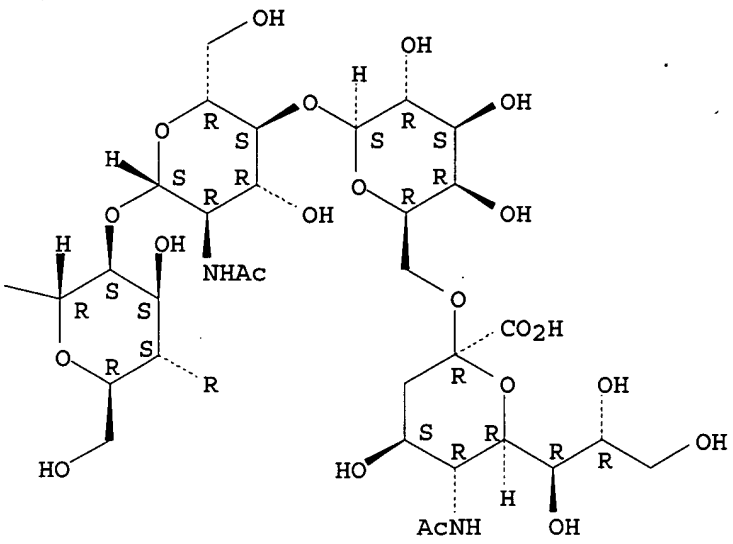

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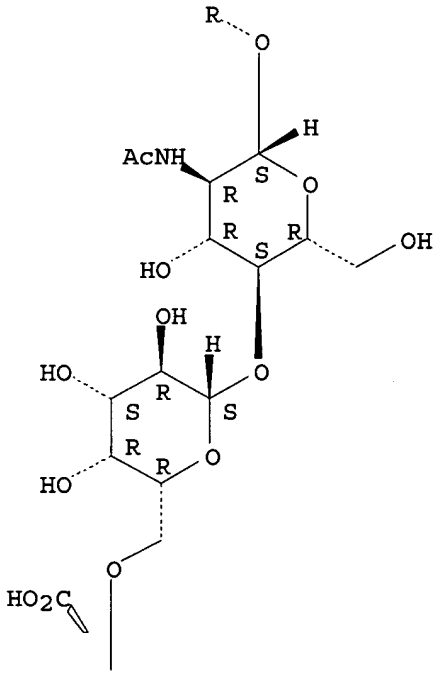

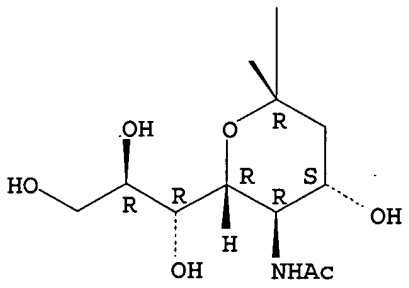
OH
O
R
HO
R
R
R
S
OH
H
OH
NHAc

L10 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:566663 CAPLUS
DOCUMENT NUMBER: 141:106736
TITLE: Three-branched sugar-chain asparagine derivatives, the sugar-chain asparagines, the sugar chains, and processes for producing these
INVENTOR(S): Kajihara, Yasuhiro; Kakehi, Kazuaki; Fukae, Kazuhiro
PATENT ASSIGNEE(S): Otsuka Chemical Co., Ltd., Japan
SOURCE: PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2004058824	A1	20040715	WO 2003-JP16912		20031226
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW					
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
CA 2511655	AA	20040715	CA 2003-2511655		20031226
AU 2003292641	A1	20040722	AU 2003-292641		20031226
EP 1577324	A1	20050921	EP 2003-782926		20031226
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK					
CN 1732186	A	20060208	CN 2003-80107568		20031226
US 2006009421	A1	20060112	US 2005-540623		20050725
PRIORITY APPLN. INFO.:			JP 2002-378203	A	20021226
			WO 2003-JP16912	W	20031226

OTHER SOURCE(S): MARPAT 141:106736
AB The invention relates to a three-branched sugar-chain asparagine derivative in which the N of an amino group of asparagine has been modified with a lipid-soluble protective group, biotin group, or FITC group; a three-branched sugar-chain asparagine derivative which is the three-branched sugar-chain asparagine derivative having at least one fucose bonded to an N-acetylglucosamine on the non-reducing end group side of the sugar-chain asparagine; these sugar-chain asparagines; and the sugar chains.

L10 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:321877 CAPLUS
DOCUMENT NUMBER: 135:104051
TITLE: Molecular modelling of MHC class I carbohydrates
AUTHOR(S): Mandal, Tarun K.; Mukhopadhyay, Chaitali
CORPORATE SOURCE: Department of Chemistry, University of Calcutta, Calcutta, 700 009, India
SOURCE: Indian Journal of Biochemistry & Biophysics (2001), 38(1&2), 96-103
CODEN: IJBBBQ; ISSN: 0301-1208
PUBLISHER: National Institute of Science Communication, CSIR
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In this article we present the results of mol. modeling of four complex carbohydrates which have been found in the MHC class I proteins. Though these proteins show diversity in their sequences, the glycosylation sites

are highly conserved indicating a possible structural/functional role of the glycan chain. Similar glycan chains have been found linked with other proteins of completely different function, such as IgG, and erythropoietin. Thus, the mol. modeling of these carbohydrates will not only provide structural/dynamic information of these complex mols. but will also provide conformational information which can be utilized to build the glycoprotein models. The results presented here indicate that although several linkages show less conformational flexibility, terminal linkages can be quite flexible.

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1995:363446 CAPLUS
DOCUMENT NUMBER: 122:208986
TITLE: Examination of complex oligosaccharides by matrix-assisted laser desorption/ionization mass spectrometry on time-of-flight and magnetic sector instruments
AUTHOR(S): Harvey, D. J.; Rudd, P. M.; Bateman, R. H.; Bordoli, R. S.; Howes, K.; Hoyes, J. B.; Vickers, R. G.
CORPORATE SOURCE: Dep. Biochem., Univ. Oxford, Oxford, OX1 3QU, UK
SOURCE: Organic Mass Spectrometry (1994), 29(12), 753-65
CODEN: ORMSBG; ISSN: 0030-493X
PUBLISHER: Wiley
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Matrix-assisted laser desorption/ionization (MALDI) spectra of underivatized oligosaccharides of the type attached to asparagine in glycoproteins (N-linked oligosaccharides) were examined with linear time-of-flight (TOF) and magnetic sector instruments using 2,5-dihydroxybenzoic acid (2,5-DHB), α-cyano-4-hydroxycinnamic acid, sinapinic acid, 1,4-dihydroxynaphthalene-2-carboxylic acid or 2-(4-hydroxyphenylazo)benzoic acid (HABA) as the matrixes. All compds. formed abundant [M + Na]+ ions with the strongest signals being obtained from 2,5-DHB after recrystn. of the initially dried sample spot from ethanol. Only traces of fragmentation were detected from neutral oligosaccharides on the TOF system but more abundant fragment ions (about 5% relative abundance) were present in the spectra from the magnetic sector instrument. Fragmentation was dominated by Y-type glycosidic cleavages (Domon and Costello nomenclature) between all sugar residues yielding sequence and branching information. Sialic acid-containing oligosaccharides generally produced the sodium adduct of the sodium salt and gave much weaker signals than the neutral sugars in the pos.-ion mode. There was also considerable loss of the sialic acid moieties as the result of fragmentation on the magnetic sector instrument. The least fragmentation of both neutral and acidic sugars was caused by 2,5-DHB, which proved to be the most appropriate matrix for examination of oligosaccharide mixts. Much better resolution of the oligosaccharides was obtained than by traditional methods such as the use of Bio-Gel P-4 gel filtration column chromatog. It is worth noting also that the measurements were considerably faster (a few minutes as opposed to about 16 h). In addition, no radiolabeling was necessary as required for detection on the P-4 columns. Mixts. of oligosaccharides from several glycoproteins (RNase B, human IgG, transferrin, bovine fetuin, and chicken ovalbumin) were examined and the patterns of the identified oligosaccharides were found to agree closely with the known compns. of the sugar mixts. The mass spectrometric resolution on the magnetic sector instrument was very much better (up to 3000, FWHM) than could be obtained with the linear TOF systems (200-400). The technique was used as a detection system for the products of exoglycosidase digestion in expts. to determine the detailed structure of the oligosaccharide chains from human IgG.

L10 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1991:243371 CAPLUS
DOCUMENT NUMBER: 114:243371
TITLE: Structure determination of the glycans of human-serum α1-antichymotrypsin using proton NMR spectroscopy and deglycosylation by N-glycanase
AUTHOR(S): Laine, Anne; Hachulla, Eric; Strecker, Gerard; Michalski, Jean Claude; Wieruszeski, Jean Michel
CORPORATE SOURCE: INSERM, Lille, 59045, Fr.
SOURCE: European Journal of Biochemistry (1991), 197(1), 209-15
CODEN: EJBCAI; ISSN: 0014-2956
DOCUMENT TYPE: Journal
LANGUAGE: English
AB α1-Antichymotrypsin purified from normal human serum was separated by affinity chromatog. into 3 microheterogeneous forms on a Con A-Sepharose column: a pass-through (peak 1), a retarded (peak 2), and a bound form (peaks 3 + 4). For each form the asparagine-linked carbohydrate chains were liberated as oligosaccharides by hydrazinolysis, submitted to reduction with NaBH4 after re-N-acetylation and further separated by affinity chromatog. on a Con -A-Sepharose column. The complete primary structure of the glycans was determined by high-resolution 1H-NMR spectroscopy. The results indicated the presence of disialyl diantennary and of trisialyl triantennary type glycan structures, the latter being accompanied by traces of disialylated triantennary oligosaccharide. The N-glycanase was used for the deglycosylation of the unfractionated α1-antichymotrypsin; the successive removal of the N-linked complex-type oligosaccharide side chains of α1-antichymotrypsin was studied in the presence of detergents. From these expts. it is concluded that α1-antichymotrypsin carries four oligosaccharide side chains. Moreover the results show that the peak 1 contains 4 triantennary glycans, the peak 2 three triantennary and 1 diantennary glycans while the bound peaks 3 + 4 possess, on average, about 1 triantennary and 3 diantennary glycans per mol. Since peak 4 contains mostly diantennary glycans, it can be deduced that in peak 3 there are mols. carrying 2 triantennary and 2 diantennary glycans and others carrying 1 triantennary and 3 diantennary glycans.

L10 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1989:20103 CAPLUS
DOCUMENT NUMBER: 110:20103
TITLE: The asparagine-linked oligosaccharides on bovine fetuin. Structural analysis of N-glycanase-released oligosaccharides by 500-megahertz proton NMR spectroscopy
AUTHOR(S): Green, Eric D.; Adelt, Gabriela; Baenziger, Jacques U.; Wilson, Susanne; Van Halbeek, Herman
CORPORATE SOURCE: Med. Sch., Washington Univ., St. Louis, MO, 63110, USA
SOURCE: Journal of Biological Chemistry (1988), 263(34), 18253-68
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The structures of the entire population of sialylated asparagine -linked oligosaccharides present on bovine fetuin were elucidated. Asparagine-linked oligosaccharides were released from fetuin with N-glycanase, radiolabeled by reduction with NaB[3H]4, and fractionated by anion-exchange HPLC, ion-suppression amine adsorption HPLC, and Con A affinity chromatog. The 3H-labeled oligosaccharide fractions obtained were analyzed by 500-MHz 1H NMR spectroscopy, revealing the presence of 23 distinct oligosaccharide structures. These oligosaccharides differed in extent of sialylation (3% mono-, 35% di-, 54% tri-, and 8% tetrasialylated), number of peripheral branches (17% di- and 83% tribranched), linkage (α2,3 vs. α2,6) and location of sialic

acid moieties, and linkage (β1,4 vs. β1,3) of galactose residues. This represents the 1st time that the asparagine -linked oligosaccharides of fetuin have been successfully fractionated and characterized as sialylated species. The sialylated oligosaccharides derived from fetuin were also used to further define the specificities of the lectins leukoagglutinating phytohemagglutinin and Ricinus communis agglutinin I. The behavior of these oligosaccharides during lectin affinity HPLC further establishes the structural features which predominate in the interaction of oligosaccharides with leukoagglutinating phytohemagglutinin and R. communis agglutinin I.

L10 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1982:579976 CAPLUS
DOCUMENT NUMBER: 97:179976
TITLE: Characterization of the structural determinants required for the high-affinity interaction of asparagine-linked oligosaccharides with immobilized Phaseolus vulgaris leukoagglutinating and erythroagglutinating lectins
AUTHOR(S): Cummings, Richard D.; Kornfeld, Stuart
CORPORATE SOURCE: Sch. Med., Washington Univ., St. Louis, MO, 63110, USA
SOURCE: Journal of Biological Chemistry (1982), 257(19), 11230-4
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The carbohydrate-binding specificities of the leukoagglutinating phytohemagglutinins (L-PHA) and erythroagglutinating phytohemagglutinins (E-PHA) of Phaseolus vulgaris, were investigated by lectin-agarose affinity chromatog. of Asn-linked oligosaccharides. High-affinity binding to E-PHA-agarose occurs only with biantennary glycopeptides containing 2 outer galactose residues and a residue of N-acetylglucosamine linked β1,4 to the β-linked mannose residue in the core. This species is not retarded on L-PHA-agarose. In contrast, tri- and tetraantennary glycopeptides containing outer galactose residues and an α-linked mannose residue substituted at positions C-2 and C-6 are specifically retarded on L-PHA-agarose. Triantennary glycopeptides containing outer galactose residues and an α-linked mannose residue substituted at positions C-2 and C-4 are not retarded on L-PHA-agarose. Addnl., the presence of outer sialic acid residues or a core fucose residue does not influence the behavior of complex glycopeptides on either of these lectin-agarose conjugates. This ability of E-PHA and L-PHA to discriminate between Asn-linked oligosaccharides with various branching patterns can be used in the fractionation of these glycopeptides.

L10 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1982:120130 CAPLUS
DOCUMENT NUMBER: 96:120130
TITLE: The asparagine-linked sugar chains of plasma membrane glycoproteins of K-562 human leukemic cells: a comparative study with human erythrocytes
AUTHOR(S): Yoshima, Hideo; Shiraishi, Nobuyuki; Matsumoto, Akira; Maeda, Sakan; Sugiyama, Taketoshi; Kobata, Akira
CORPORATE SOURCE: Sch. Med., Kobe Univ., Hyogo, 650, Japan
SOURCE: Journal of Biochemistry (Tokyo, Japan) (1982), 91(1), 233-46
CODEN: JOBIAO; ISSN: 0021-924X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Oligosaccharides released from the plasma membranes of K-562 cells are of the high mannose type, whereas those from erythrocyte membranes are of large complex type structures. Studies of the acidic oligosaccharides indicated that none of those obtained from K-562 cells contained the β-N-acetylglucosamine residue linked at the C-4 position of the

β-mannosyl residue of the trimannosyl core, which occurs in most of the asparagine-linked sugar chains of human erythrocytes. This indicates that the glucosaminyltransferase that forms of the β-D-GlcNAcp-(1→4)-β-D-Manp(1→4) group has not been expressed in K-562 cells.

=> d L10 1-7 ibib abs hitstr

L10 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:566663 CAPLUS
DOCUMENT NUMBER: 141:106736
TITLE: Three-branched sugar-chain asparagine derivatives, the sugar-chain asparagines, the sugar chains, and processes for producing these
INVENTOR(S): Kajihara, Yasuhiro; Kakehi, Kazuaki; Fukae, Kazuhiro
PATENT ASSIGNEE(S): Otsuka Chemical Co., Ltd., Japan
SOURCE: PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004058824	A1	20040715	WO 2003-JP16912	20031226
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
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CA 2511655	AA	20040715	CA 2003-2511655	20031226
AU 2003292641	A1	20040722	AU 2003-292641	20031226
EP 1577324	A1	20050921	EP 2003-782926	20031226
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1732186	A	20060208	CN 2003-80107568	20031226
US 2006009421	A1	20060112	US 2005-540623	20050725

PRIORITY APPLN. INFO.: JP 2002-378203 A 20021226
WO 2003-JP16912 W 20031226

OTHER SOURCE(S): MARPAT 141:106736

AB The invention relates to a three-branched sugar-chain asparagine derivative in which the N of an amino group of asparagine has been modified with a lipid-soluble protective group, biotin group, or FITC group; a three-branched sugar-chain asparagine derivative which is the three-branched sugar-chain asparagine derivative having at least one fucose bonded to an N-acetylglucosamine on the non-reducing end group side of the sugar-chain asparagine; these sugar-chain asparagines; and the sugar chains.

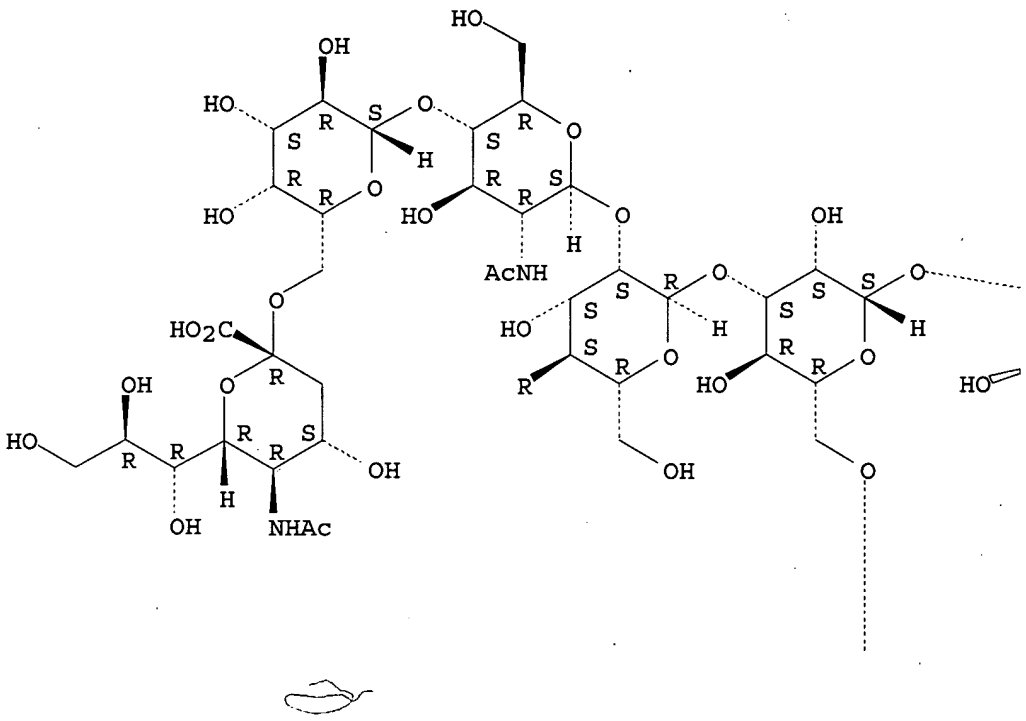
IT 719288-48-9P
RL: BCP (Biochemical process); BMF (Bioindustrial manufacture); BIOL (Biological study); PREP (Preparation); PROC (Process)
(manufacture of three-branched sugar-chain asparagine derivs.)

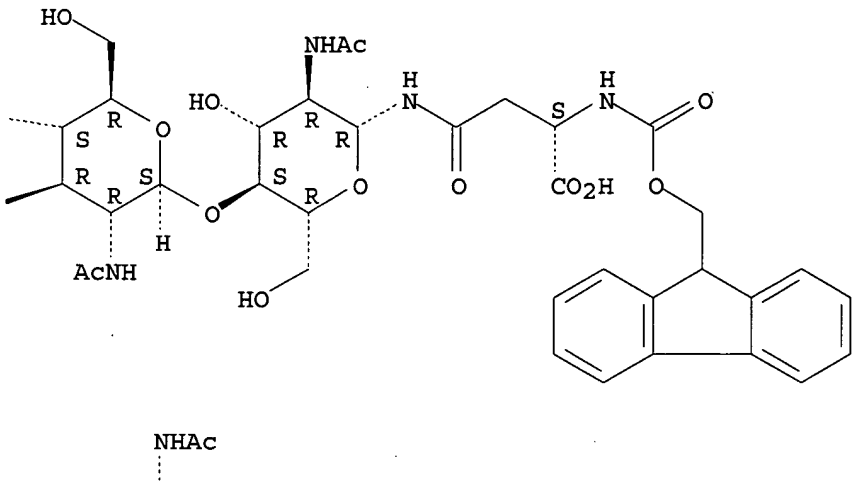
RN 719288-48-9 CAPLUS

CN L-Asparagine, N-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→6)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-

(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl]-N2-[(9H-fluoren-9-ylmethoxy)carbonyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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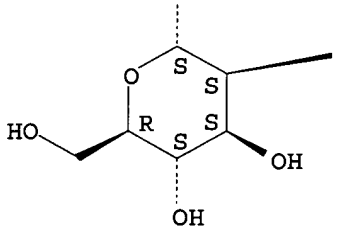
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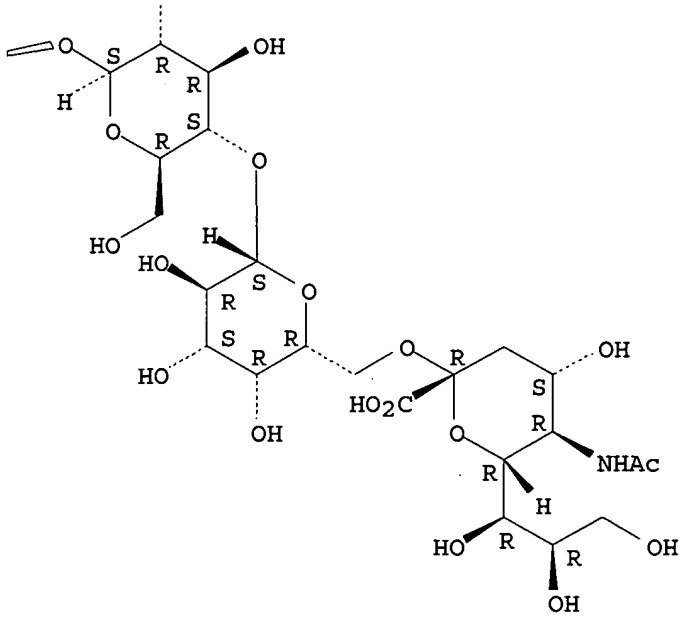

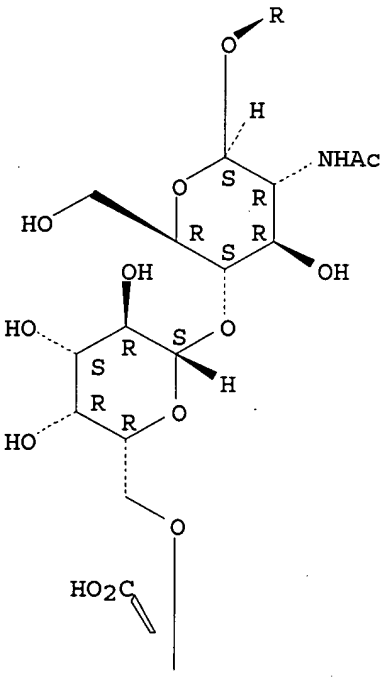

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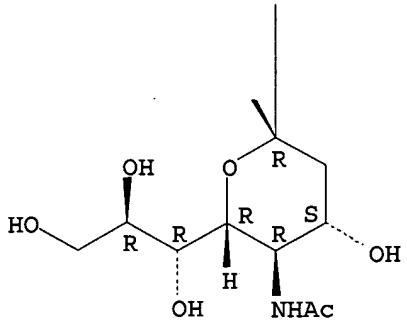
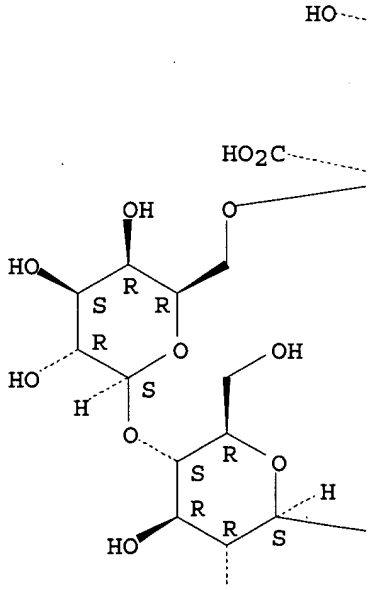
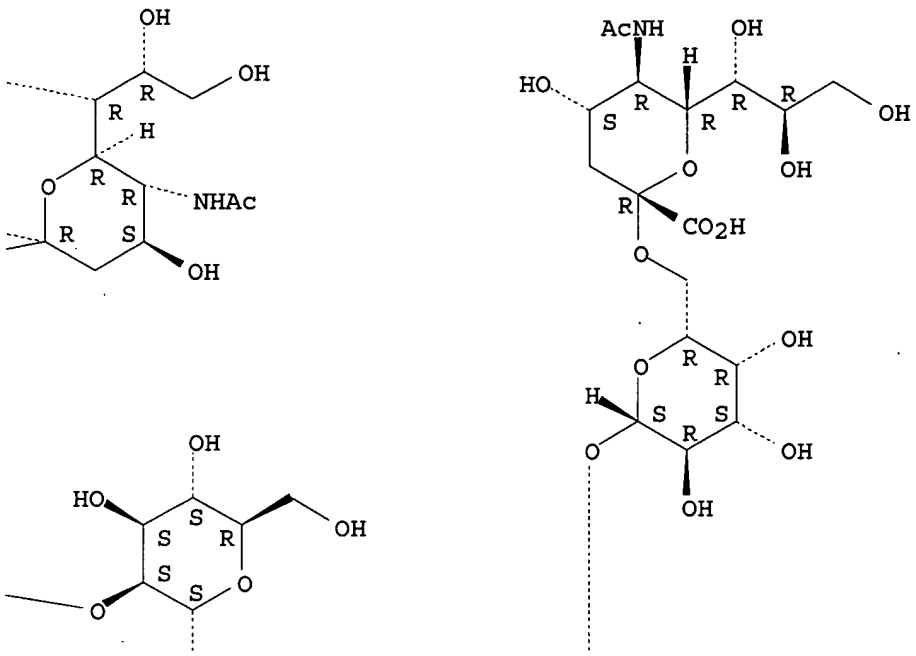


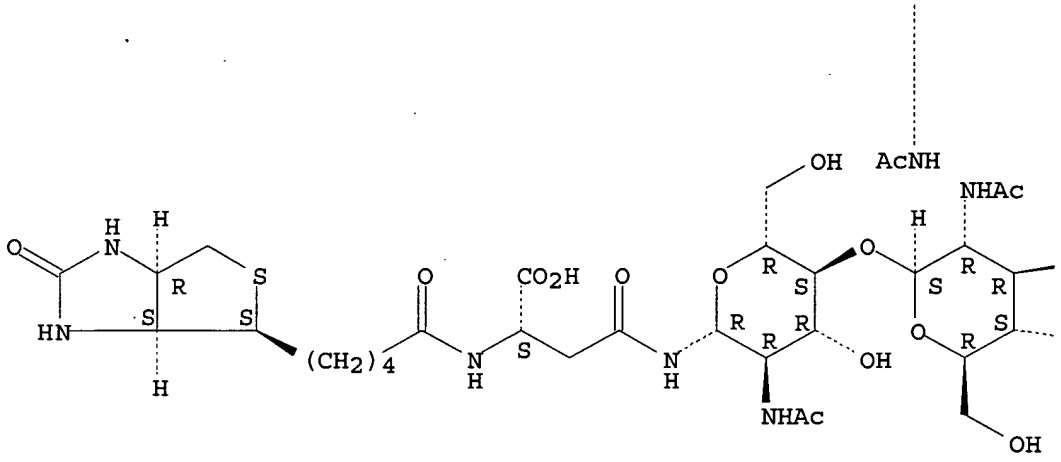
IT 719288-52-5P
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of three-branched sugar-chain asparagine derivs.)
RN 719288-52-5 CAPLUS
CN L-Asparagine, N-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→6)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl]-N2-[5-[(3aS,4S,6aR)-hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl]-1-oxopentyl]- (9CI) (CA INDEX NAME)

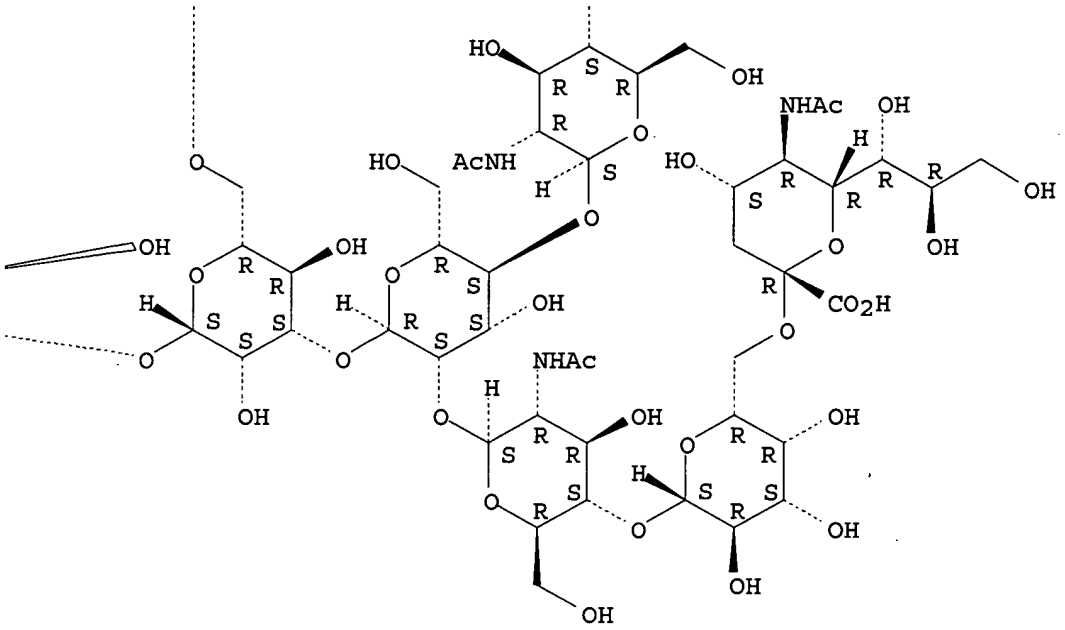
Absolute stereochemistry.

PAGE 1-A









IT 719288-53-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(manufacture of three-branched sugar-chain asparagine derivs.)

RN 719288-53-6 CAPLUS

CN L-Asparagine, N-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→6)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl]-N2-[[(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5-yl)amino]thioxomethyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

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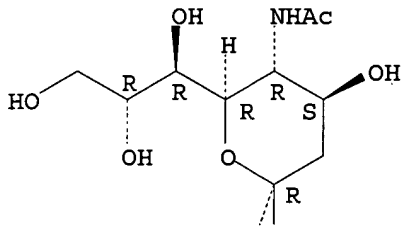

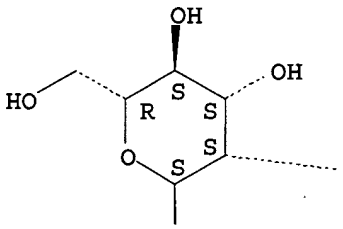

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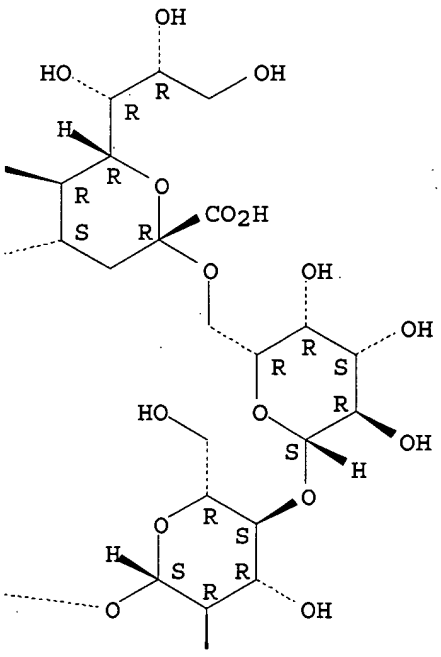

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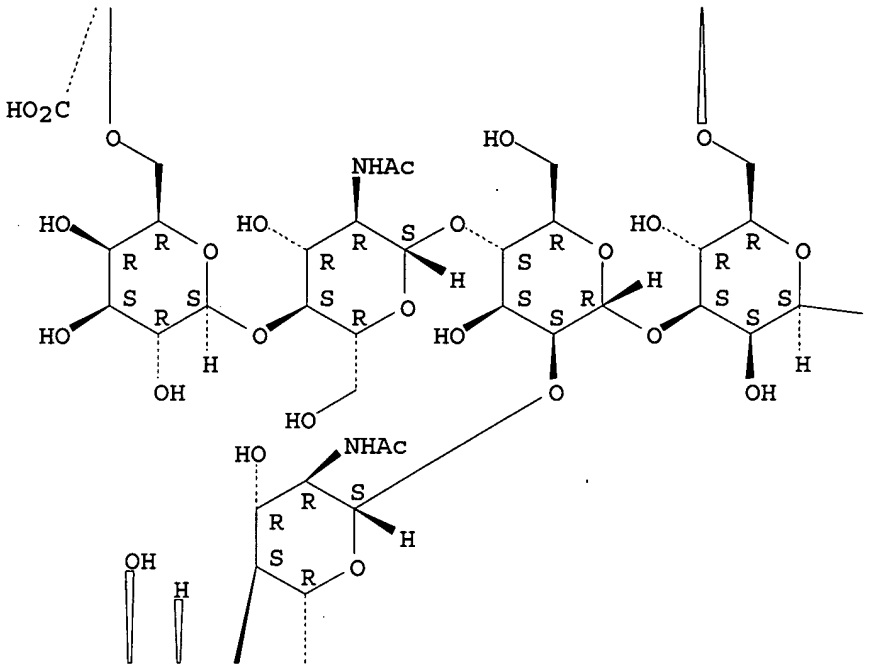

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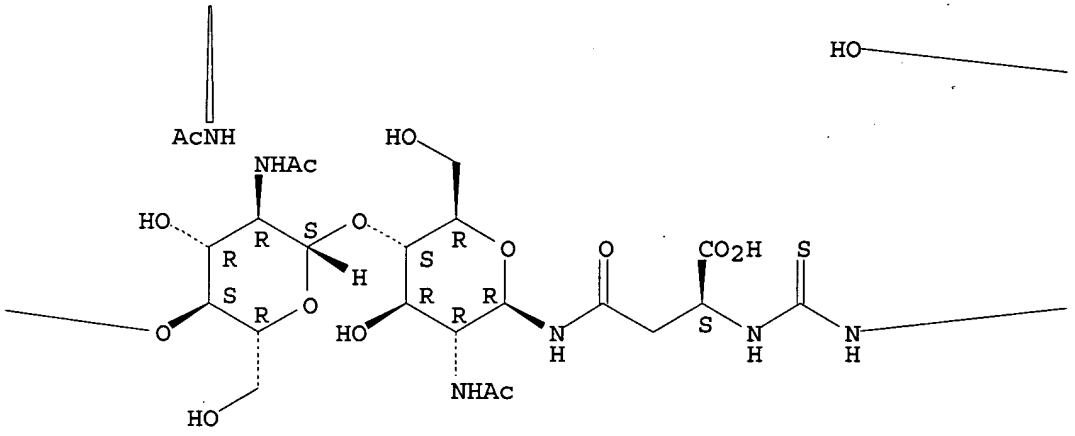

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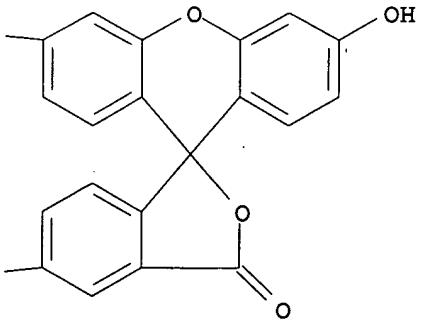
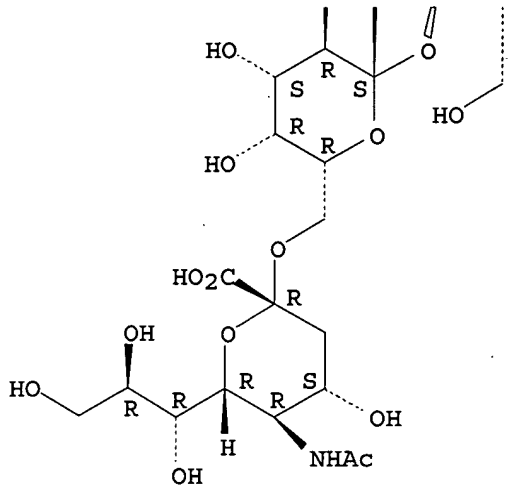




L10 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:321877 CAPLUS
DOCUMENT NUMBER: 135:104051
TITLE: Molecular modelling of MHC class I carbohydrates
AUTHOR(S): Mandal, Tarun K.; Mukhopadhyay, Chaitali
CORPORATE SOURCE: Department of Chemistry, University of Calcutta, Calcutta, 700 009, India
SOURCE: Indian Journal of Biochemistry & Biophysics (2001), 38(1&2), 96-103
CODEN: IJBBBQ; ISSN: 0301-1208
PUBLISHER: National Institute of Science Communication, CSIR
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In this article we present the results of mol. modeling of four complex carbohydrates which have been found in the MHC class I proteins. Though these proteins show diversity in their sequences, the glycosylation sites are highly conserved indicating a possible structural/functional role of the glycan chain. Similar glycan chains have been found linked with other proteins of completely different function, such as IgG, and erythropoietin. Thus, the mol. modeling of these carbohydrates will not only provide structural/dynamic information of these complex mols. but will also provide conformational information which can be utilized to build the glycoprotein models. The results presented here indicate that although several linkages show less conformational flexibility, terminal linkages can be quite flexible.

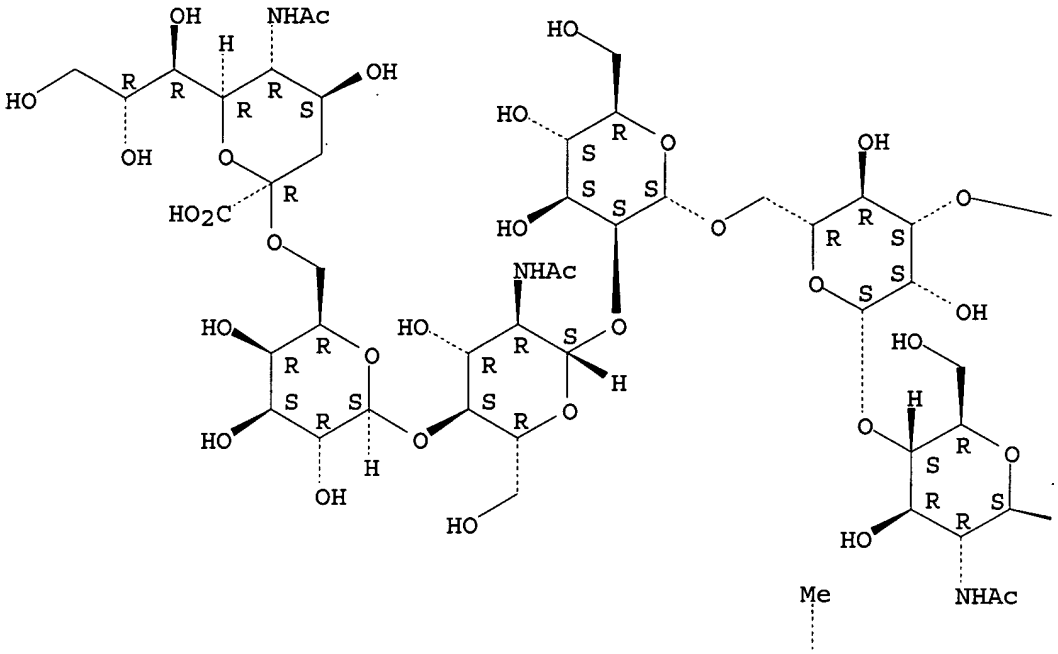
IT 350221-23-7
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(mol. modeling of MHC class I carbohydrates)

RN 350221-23-7 CAPLUS

CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[6-deoxy-α-L-galactopyranosyl-(1→6)]-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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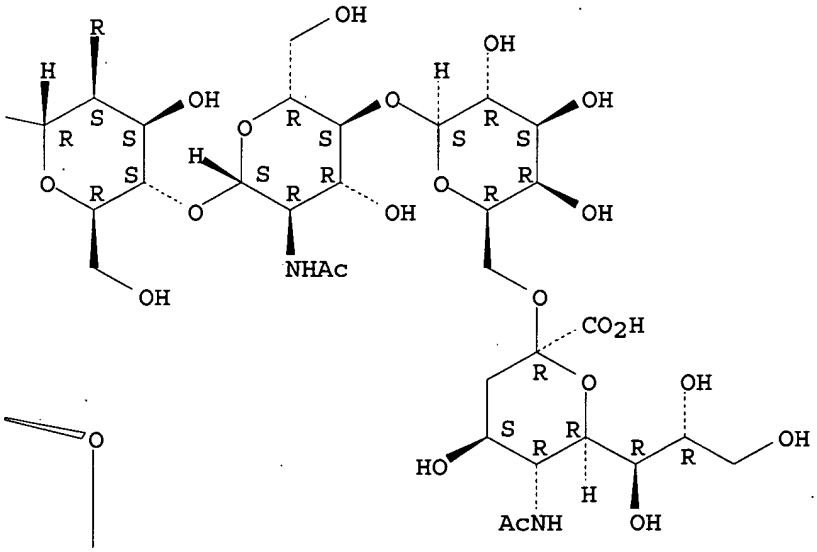

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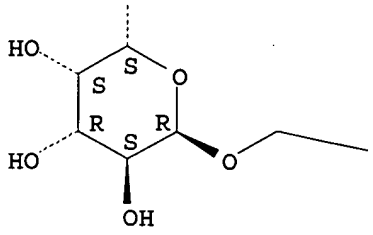

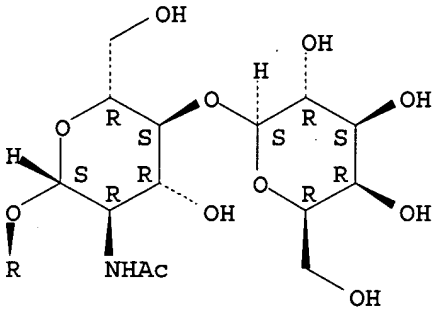

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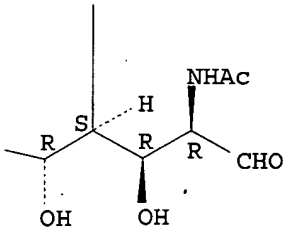


REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1995:363446 CAPLUS
DOCUMENT NUMBER: 122:208986
TITLE: Examination of complex oligosaccharides by matrix-assisted laser desorption/ionization mass spectrometry on time-of-flight and magnetic sector instruments
AUTHOR(S): Harvey, D. J.; Rudd, P. M.; Bateman, R. H.; Bordoli, R. S.; Howes, K.; Hoyes, J. B.; Vickers, R. G.
CORPORATE SOURCE: Dep. Biochem., Univ. Oxford, Oxford, OX1 3QU, UK
SOURCE: Organic Mass Spectrometry (1994), 29(12), 753-65
CODEN: ORMSBG; ISSN: 0030-493X
PUBLISHER: Wiley
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Matrix-assisted laser desorption/ionization (MALDI) spectra of underivatized oligosaccharides of the type attached to asparagine in glycoproteins (N-linked oligosaccharides) were examined with linear time-of-flight (TOF) and magnetic sector instruments using 2,5-dihydroxybenzoic acid (2,5-DHB), α-cyano-4-hydroxycinnamic acid, sinapinic acid, 1,4-dihydroxynaphthalene-2-carboxylic acid or 2-(4-hydroxyphenylazo)benzoic acid (HABA) as the matrixes. All compds. formed abundant [M + Na]+ ions with the strongest signals being obtained

from 2,5-DHB after recrystn. of the initially dried sample spot from ethanol. Only traces of fragmentation were detected from neutral oligosaccharides on the TOF system but more abundant fragment ions (about 5% relative abundance) were present in the spectra from the magnetic sector instrument. Fragmentation was dominated by Y-type glycosidic cleavages (Domon and Costello nomenclature) between all sugar residues yielding sequence and branching information. Sialic acid-containing oligosaccharides generally produced the sodium adduct of the sodium salt and gave much weaker signals than the neutral sugars in the pos.-ion mode. There was also considerable loss of the sialic acid moieties as the result of fragmentation on the magnetic sector instrument. The least fragmentation of both neutral and acidic sugars was caused by 2,5-DHB, which proved to be the most appropriate matrix for examination of oligosaccharide mixts. Much better resolution of the oligosaccharides was obtained than by traditional methods such as the use of Bio-Gel P-4 gel filtration column chromatog. It is worth noting also that the measurements were considerably faster (a few minutes as opposed to about 16 h). In addition, no radiolabeling was necessary as required for detection on the P-4 columns. Mixts. of oligosaccharides from several glycoproteins (RNase B, human IgG, transferrin, bovine fetuin, and chicken ovalbumin) were examined and the patterns of the identified oligosaccharides were found to agree closely with the known compns. of the sugar mixts. The mass spectrometric resolution on the magnetic sector instrument was very much better (up to 3000, FWHM) than could be obtained with the linear TOF systems (200-400). The technique was used as a detection system for the products of exoglycosidase digestion in expts. to determine the detailed structure of the oligosaccharide chains from human IgG.

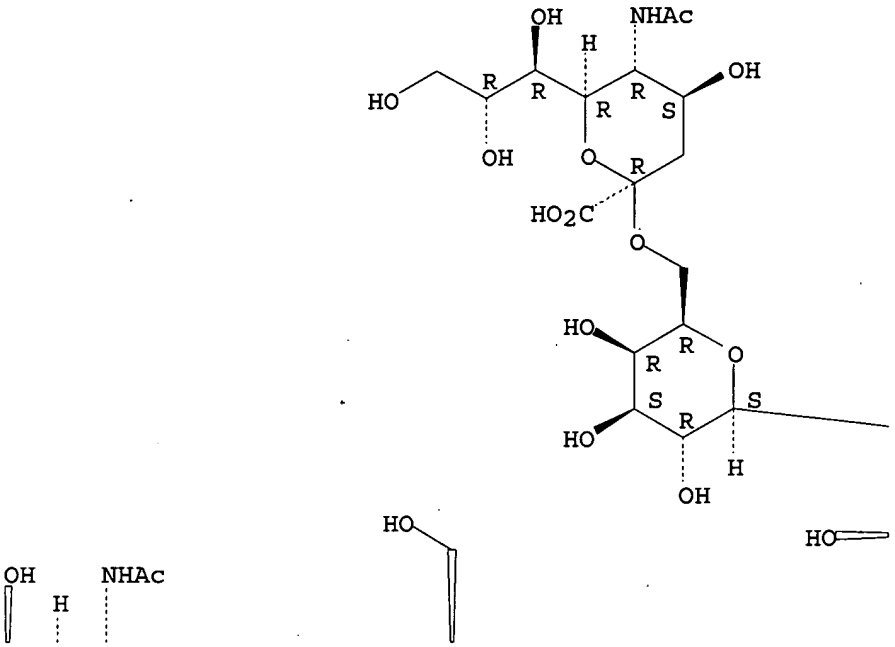
IT 83411-87-4
RL: ANT (Analyte); PRP (Properties); ANST (Analytical study)
(anal. of complex oligosaccharides by matrix-assisted laser desorption/ionization mass spectrometry)

RN 83411-87-4 CAPLUS

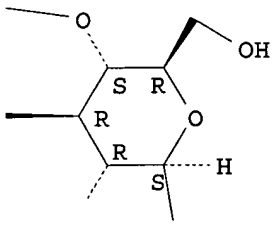
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

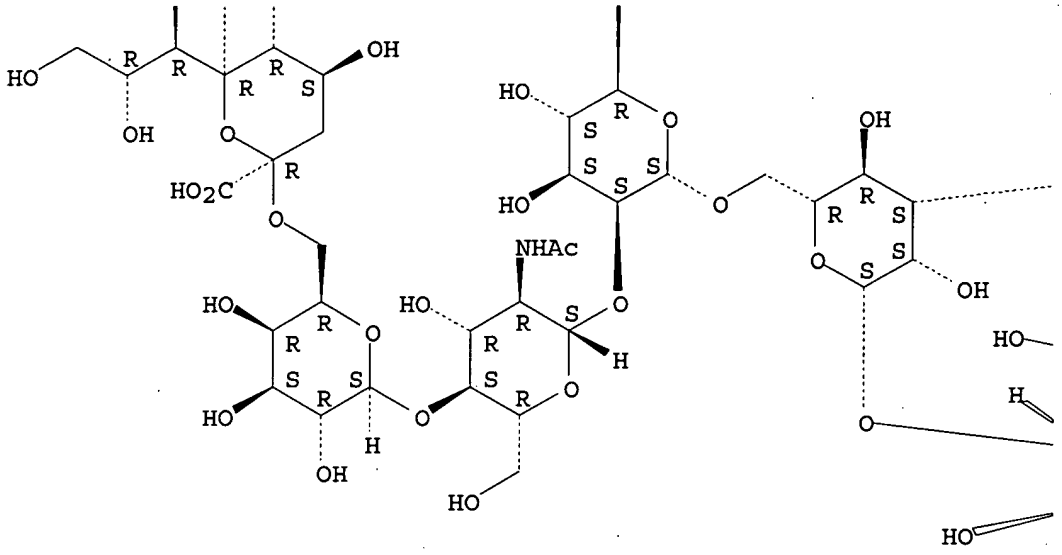
PAGE 1-A



PAGE 1-B



PAGE 2-A



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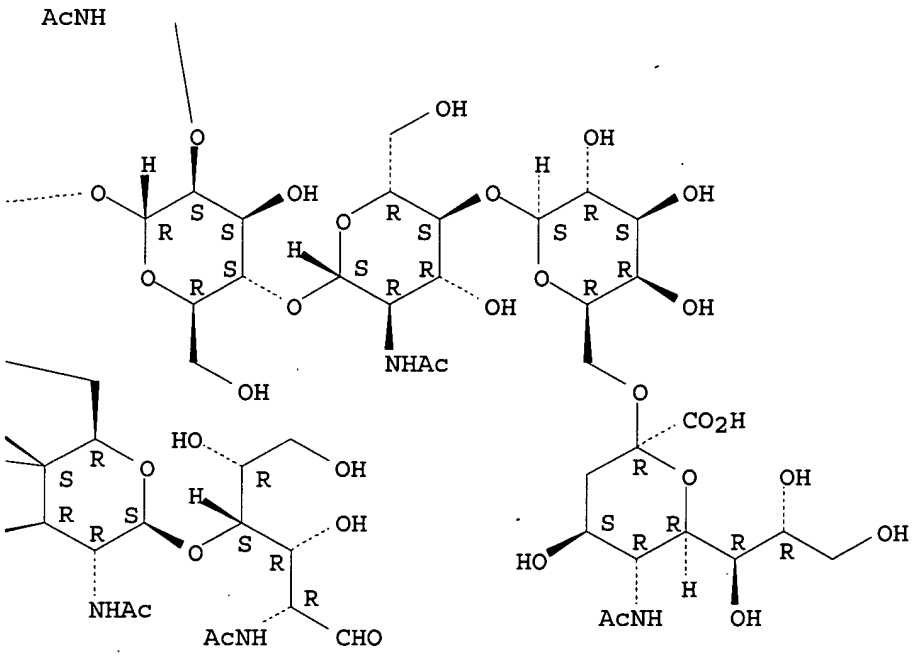


L10 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1991:243371 CAPLUS

DOCUMENT NUMBER: 114:243371

TITLE: Structure determination of the glycans of human-serum α1-antichymotrypsin using proton NMR spectroscopy and deglycosylation by N-glycanase

AUTHOR(S): Laine, Anne; Hachulla, Eric; Strecker, Gerard; Michalski, Jean Claude; Wieruszeski, Jean Michel

CORPORATE SOURCE: INSERM, Lille, 59045, Fr.

SOURCE: European Journal of Biochemistry (1991), 197(1), 209-15
CODEN: EJBCAI; ISSN: 0014-2956

DOCUMENT TYPE: Journal

LANGUAGE: English

AB α1-Antichymotrypsin purified from normal human serum was separated by affinity chromatog. into 3 microheterogeneous forms on a Con A-Sepharose column: a pass-through (peak 1), a retarded (peak 2), and a bound form (peaks 3 + 4). For each form the asparagine-linked carbohydrate chains were liberated as oligosaccharides by hydrazinolysis, submitted to reduction with NaBH4 after re-N-acetylation and further separated by affinity chromatog. on a Con -A-Sepharose column. The complete primary structure of the glycans was determined by high-resolution 1H-NMR spectroscopy. The results indicated the presence of disialyl diantennary and of trisialyl triantennary type glycan structures, the latter being accompanied by traces of disialylated triantennary oligosaccharide. The N-glycanase was used for the deglycosylation of the unfractionated α1-antichymotrypsin; the successive removal of the N-linked complex-type oligosaccharide side chains of α1-antichymotrypsin was studied in the presence of detergents. From these expts. it is concluded that α1-antichymotrypsin carries four oligosaccharide side chains. Moreover the results show that the peak 1 contains 4 triantennary glycans, the peak 2 three triantennary and 1 diantennary glycans while the bound peaks 3 + 4 possess, on average, about 1 triantennary and 3 diantennary glycans per mol. Since peak 4 contains mostly diantennary glycans, it can be deduced that in peak 3 there are mols. carrying 2 triantennary and 2 diantennary glycans and others carrying 1 triantennary and 3 diantennary glycans.

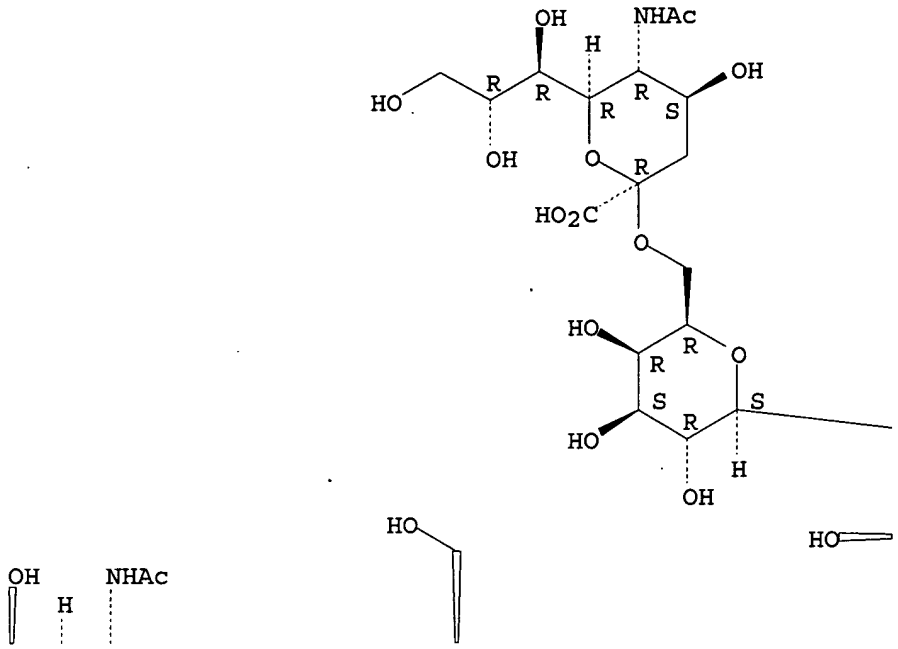
IT 83411-87-4
RL: PROC (Process)
(of antichymotrypsin of human, structure determination of)

RN 83411-87-4 CAPLUS

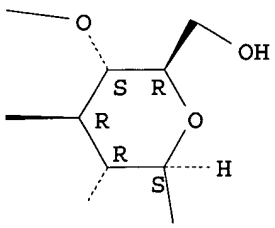
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



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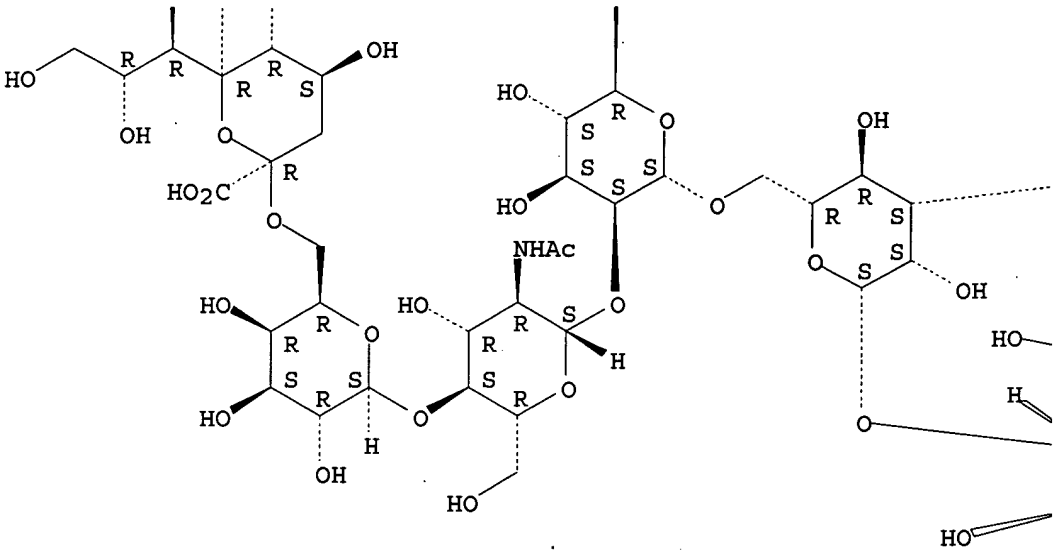

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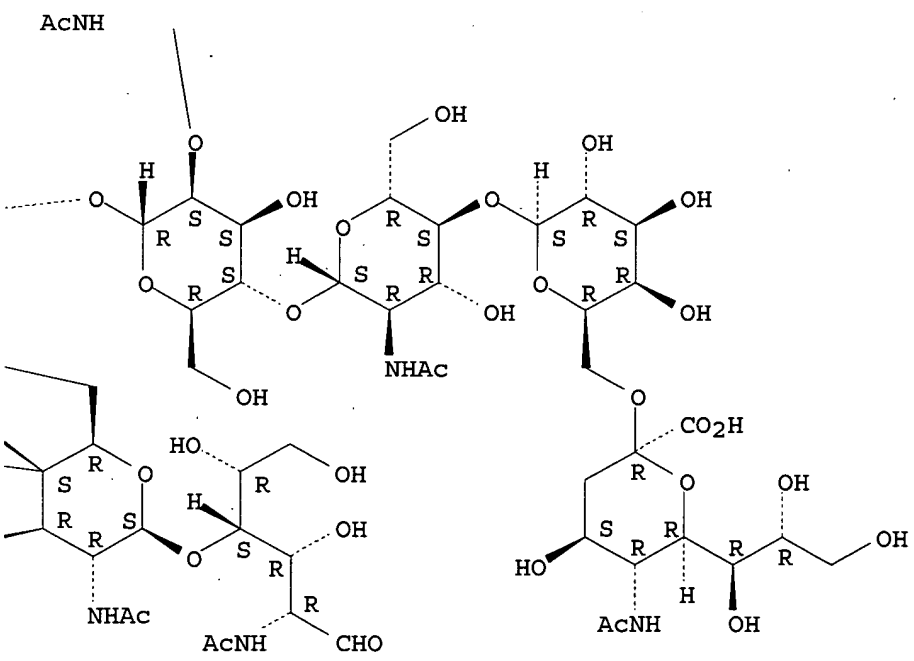


L10 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1989:20103 CAPLUS
DOCUMENT NUMBER: 110:20103
TITLE: The asparagine-linked oligosaccharides on bovine fetuin. Structural analysis of N-glycanase-released oligosaccharides by 500-megahertz proton NMR spectroscopy
AUTHOR(S): Green, Eric D.; Adelt, Gabriela; Baenziger, Jacques U.; Wilson, Susanne; Van Halbeek, Herman
CORPORATE SOURCE: Med. Sch., Washington Univ., St. Louis, MO, 63110, USA
SOURCE: Journal of Biological Chemistry (1988), 263(34), 18253-68
CODEN: JBCHA3; ISSN: 0021-9258

DOCUMENT TYPE: Journal
LANGUAGE: English

AB The structures of the entire population of sialylated asparagine -linked oligosaccharides present on bovine fetuin were elucidated. Asparagine-linked oligosaccharides were released from fetuin with N-glycanase, radiolabeled by reduction with NaB[3H]4, and fractionated by anion-exchange HPLC, ion-suppression amine adsorption HPLC, and Con A affinity chromatog. The 3H-labeled oligosaccharide fractions obtained were analyzed by 500-MHz 1H NMR spectroscopy, revealing the presence of 23 distinct oligosaccharide structures. These oligosaccharides differed in extent of sialylation (3% mono-, 35% di-, 54% tri-, and 8% tetrasialylated), number of peripheral branches (17% di- and 83% tribranched), linkage (α2,3 vs. α2,6) and location of sialic acid moieties, and linkage (β1,4 vs. β1,3) of galactose residues. This represents the 1st time that the asparagine -linked oligosaccharides of fetuin have been successfully fractionated and characterized as sialylated species. The sialylated oligosaccharides derived from fetuin were also used to further define the specificities of the lectins leukoagglutinating phytohemagglutinin and Ricinus communis agglutinin I. The behavior of these oligosaccharides during lectin affinity HPLC further establishes the structural features which predominate in the interaction of oligosaccharides with leukoagglutinating phytohemagglutinin and R. communis agglutinin I.

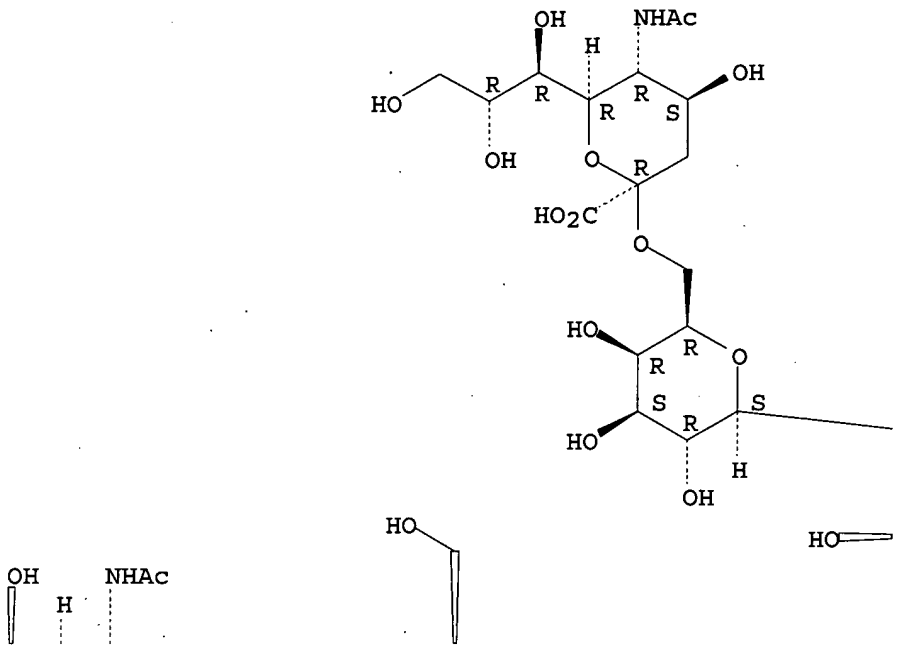
IT 83411-87-4
RL: BIOL (Biological study)
(asparagine-linked, of fetuin, lectin interaction with and NMR assignment of)

RN 83411-87-4 CAPLUS

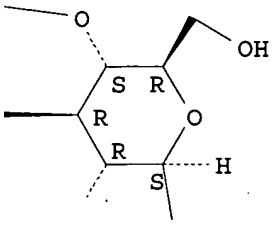
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



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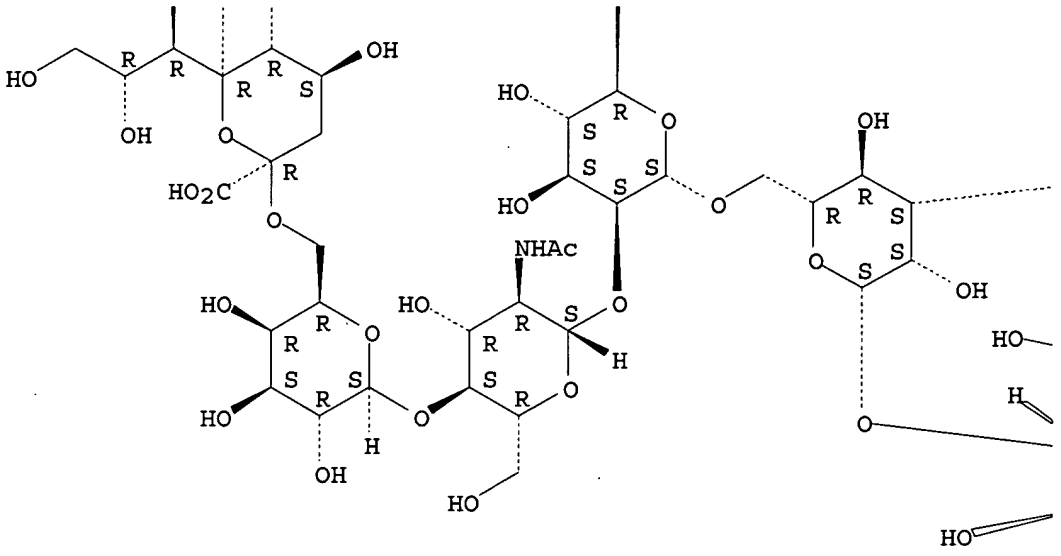

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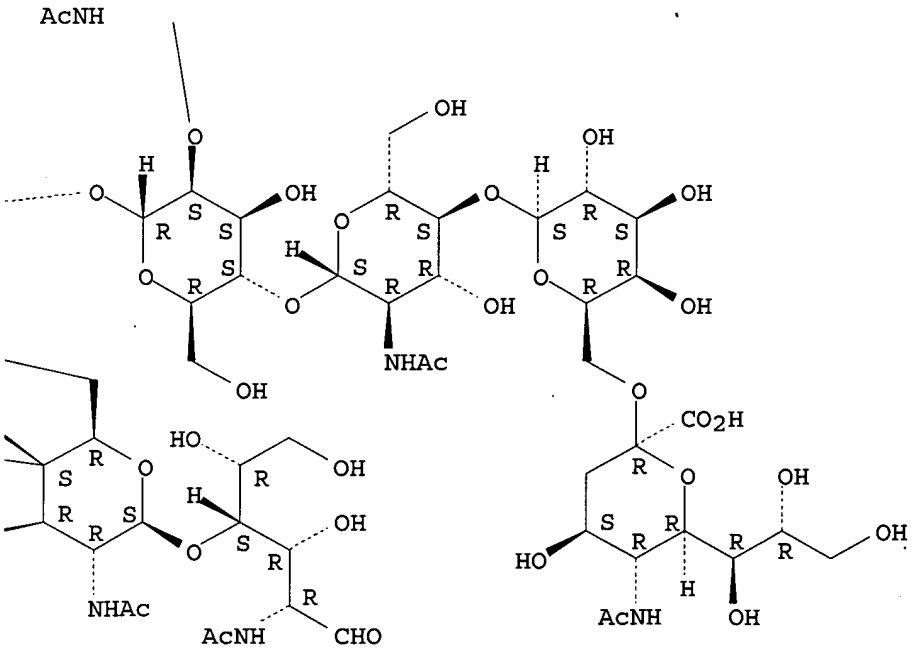


L10 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1982:579976 CAPLUS
DOCUMENT NUMBER: 97:179976
TITLE: Characterization of the structural determinants required for the high-affinity interaction of asparagine-linked oligosaccharides with immobilized Phaseolus vulgaris leukoagglutinating and erythroagglutinating lectins
AUTHOR(S): Cummings, Richard D.; Kornfeld, Stuart
CORPORATE SOURCE: Sch. Med., Washington Univ., St. Louis, MO, 63110, USA
SOURCE: Journal of Biological Chemistry (1982), 257(19), 11230-4
CODEN: JBCHA3; ISSN: 0021-9258

DOCUMENT TYPE: Journal
LANGUAGE: English

AB The carbohydrate-binding specificities of the leukoagglutinating phytohemagglutinins (L-PHA) and erythroagglutinating phytohemagglutinins (E-PHA) of Phaseolus vulgaris, were investigated by lectin-agarose affinity chromatog. of Asn-linked oligosaccharides. High-affinity binding to E-PHA-agarose occurs only with biantennary glycopeptides containing 2 outer galactose residues and a residue of N-acetylglucosamine linked β1,4 to the β-linked mannose residue in the core. This species is not retarded on L-PHA-agarose. In contrast, tri- and tetraantennary glycopeptides containing outer galactose residues and an α-linked mannose residue substituted at positions C-2 and C-6 are specifically retarded on L-PHA-agarose. Triantennary glycopeptides containing outer galactose residues and an α-linked mannose residue substituted at positions C-2 and C-4 are not retarded on L-PHA-agarose. Addnl., the presence of outer sialic acid residues or a core fucose residue does not influence the behavior of complex glycopeptides on either of these lectin-agarose conjugates. This ability of E-PHA and L-PHA to discriminate between Asn-linked oligosaccharides with various branching patterns can be used in the fractionation of these glycopeptides.

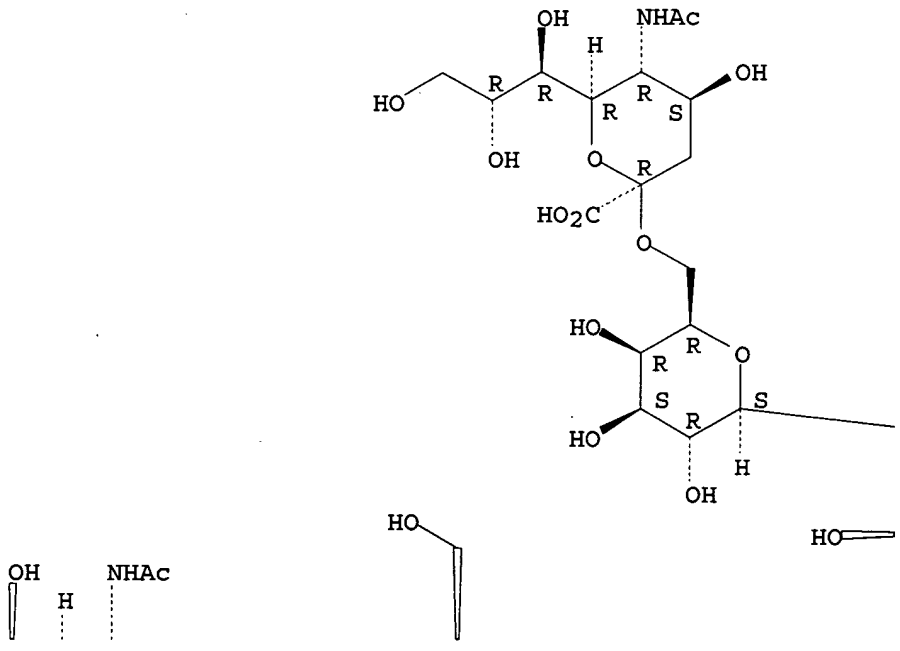
IT 83411-87-4
RL: BIOL (Biological study)
(of asparagine-linked glycopeptide, kidney bean lectin binding to)

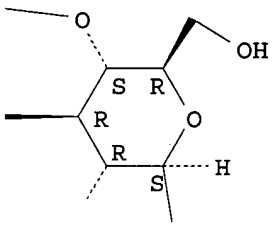
RN 83411-87-4 CAPLUS

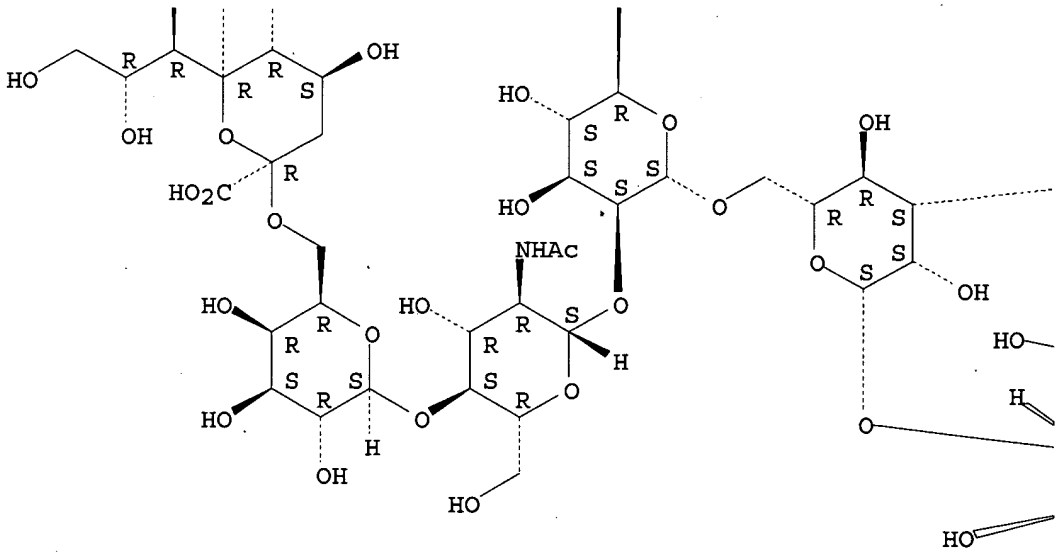
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

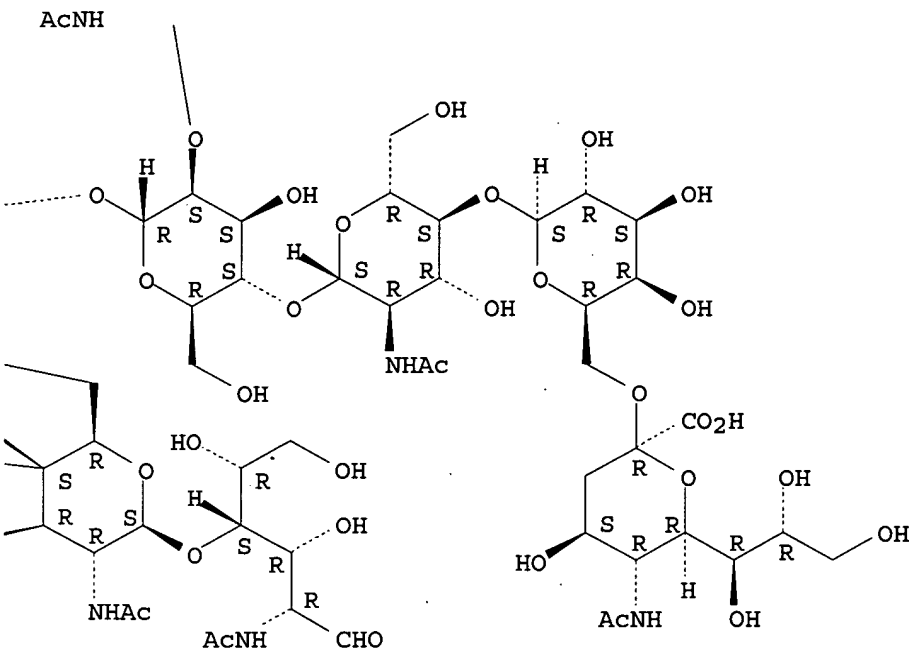
Absolute stereochemistry.

PAGE 1-A









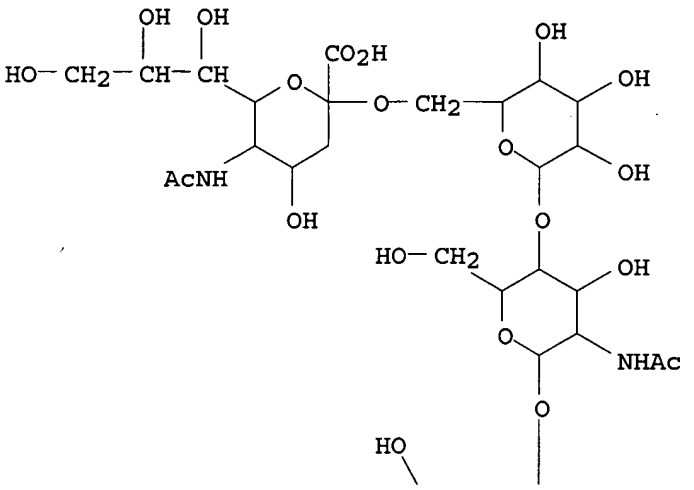
L10 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1982:120130 CAPLUS
DOCUMENT NUMBER: 96:120130
TITLE: The asparagine-linked sugar chains of plasma membrane glycoproteins of K-562 human leukemic cells: a comparative study with human erythrocytes
AUTHOR(S): Yoshima, Hideo; Shiraishi, Nobuyuki; Matsumoto, Akira; Maeda, Sakan; Sugiyama, Taketoshi; Kobata, Akira
CORPORATE SOURCE: Sch. Med., Kobe Univ., Hyogo, 650, Japan
SOURCE: Journal of Biochemistry (Tokyo, Japan) (1982), 91(1), 233-46
CODEN: JOBIAO; ISSN: 0021-924X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Oligosaccharides released from the plasma membranes of K-562 cells are of the high mannose type, whereas those from erythrocyte membranes are of large complex type structures. Studies of the acidic oligosaccharides indicated that none of those obtained from K-562 cells contained the β-N-acetylglucosamine residue linked at the C-4 position of the β-mannosyl residue of the trimannosyl core, which occurs in most of the asparagine-linked sugar chains of human erythrocytes. This indicates that the glucosaminyltransferase that forms of the β-D-GlcNAcp-(1→4)-β-D-Manp(1→4) group has not been expressed in K-562 cells.

IT 80968-74-7 80979-74-4 80979-78-8
81024-64-8
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(of leukemia cell line K-562 cell membrane glycoproteins, in human)
RN 80968-74-7 CAPLUS
CN D-Glucitol, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-

β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



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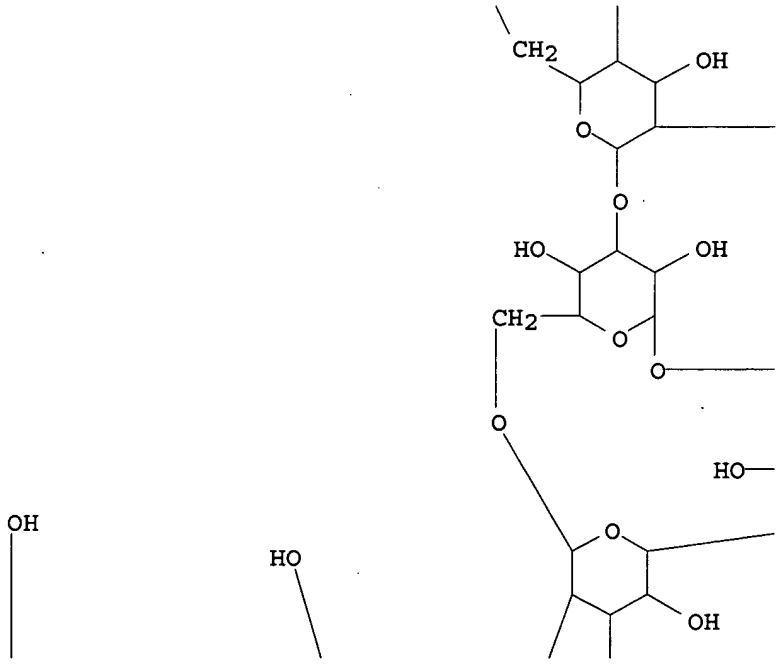
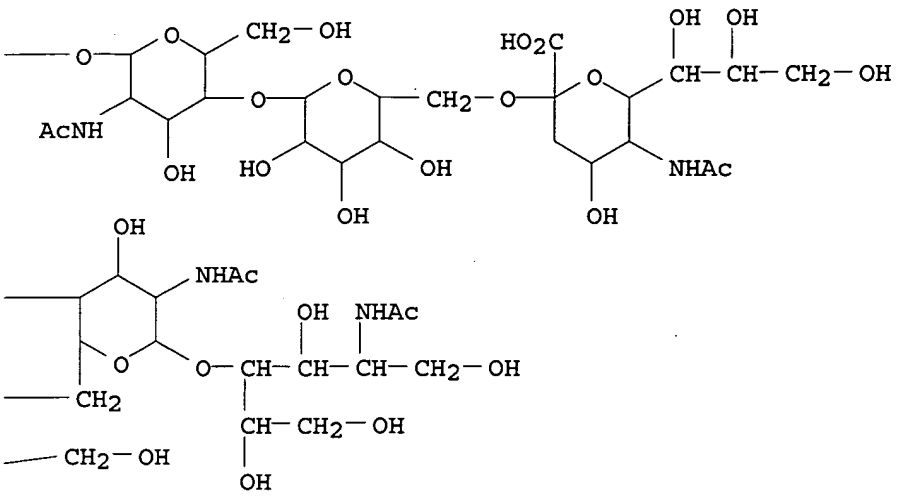
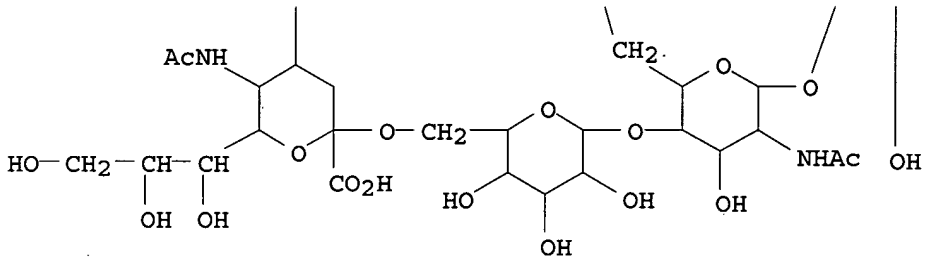


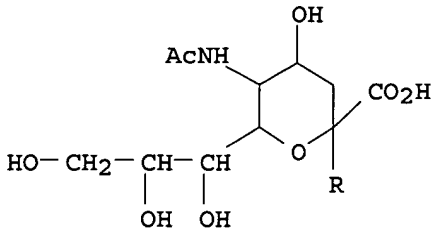


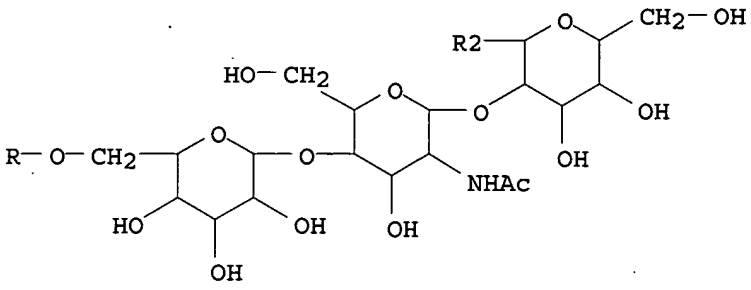


RN 80979-74-4 CAPLUS

CN D-Glucitol, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[6-deoxy-α-L-galactopyranosyl-(1→6)]-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

PAGE 1-A





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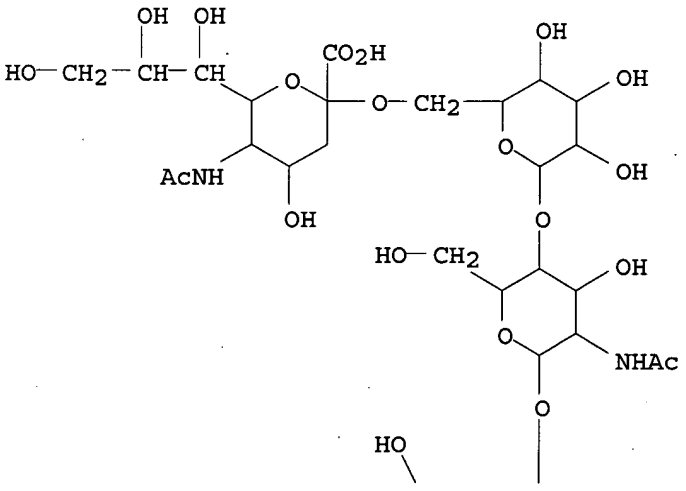

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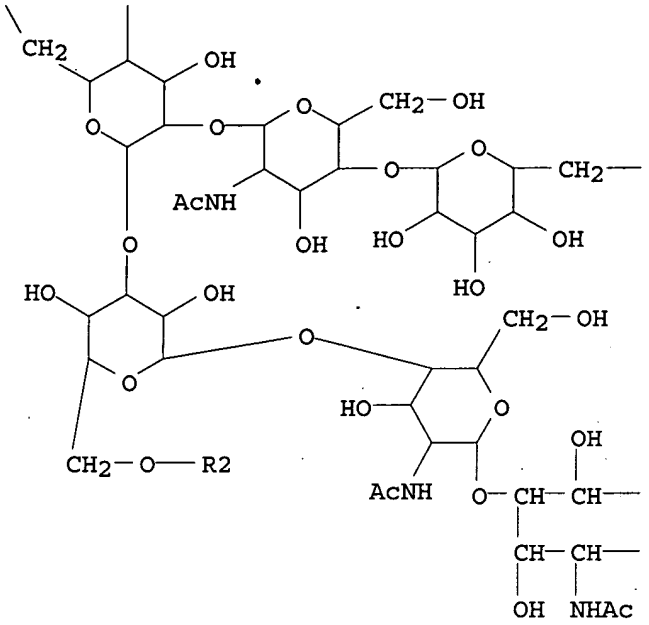

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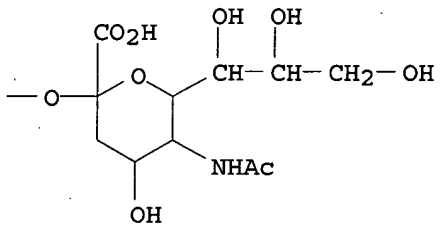
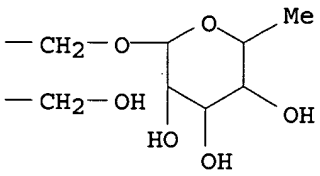
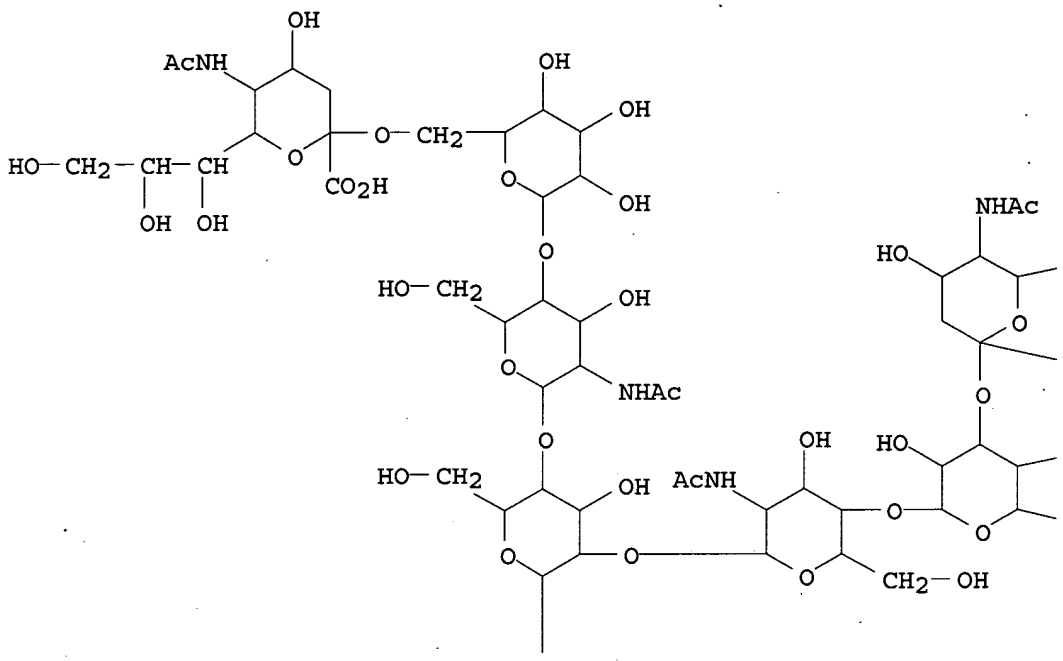




RN 80979-78-8 CAPLUS

CN D-Glucitol, O-(N-acetyl-α-neuraminosyl)-(2→3)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[6-deoxy-α-L-galactopyranosyl-(1→6)]-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



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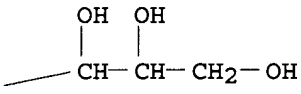

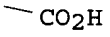

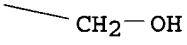

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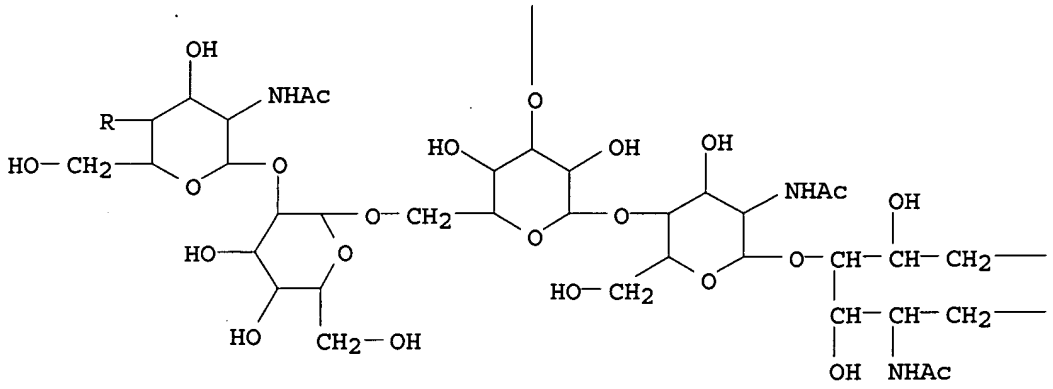

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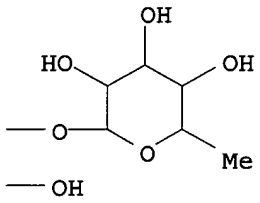

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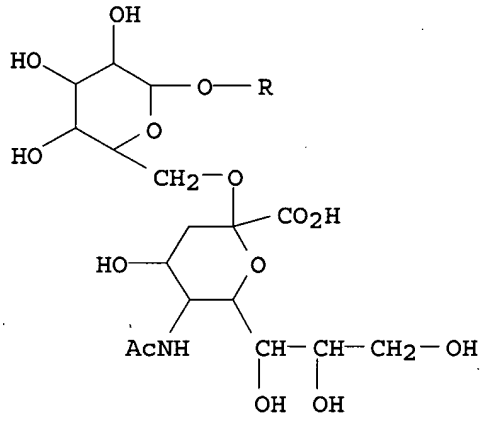

RN 81024-64-8 CAPLUS

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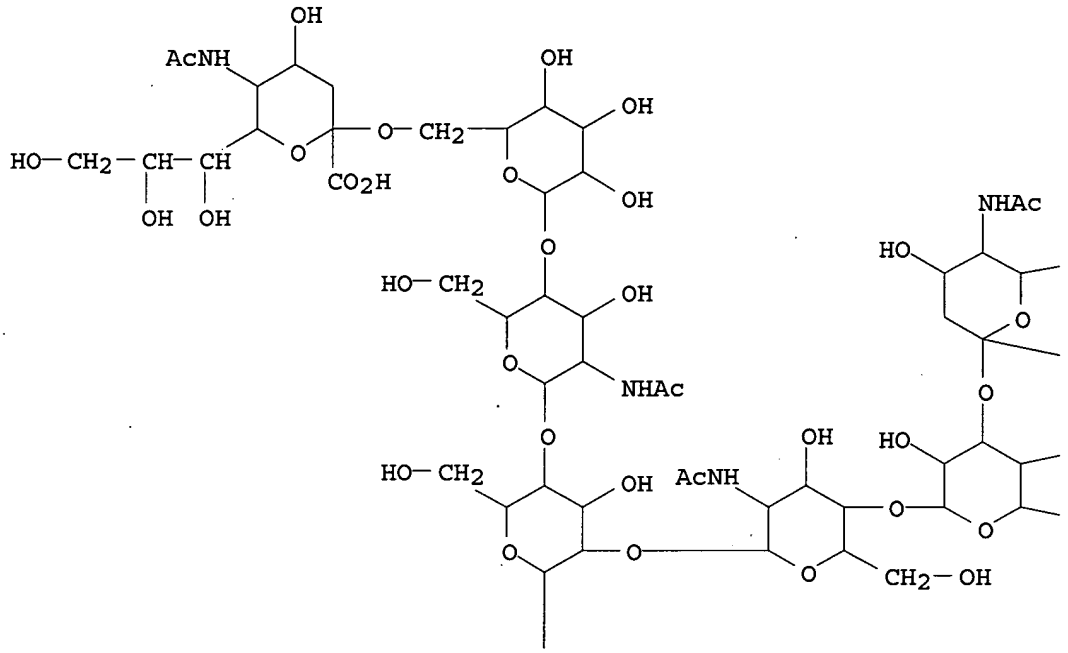

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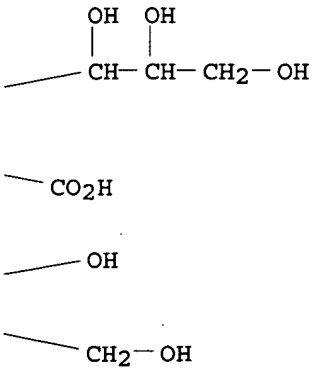

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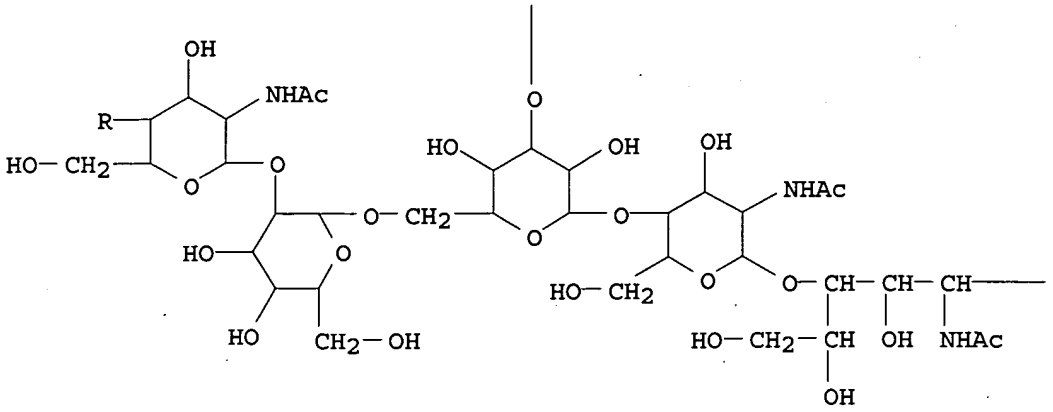

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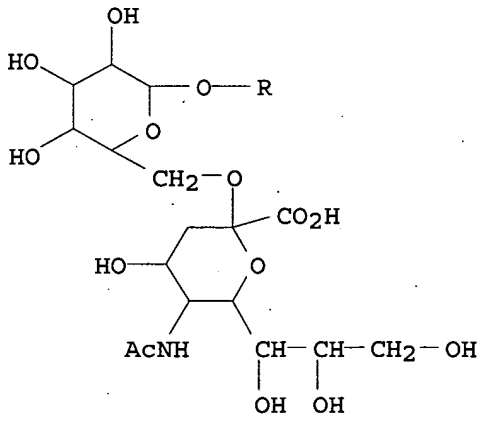
PAGE 3-A



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L2           1 S L1 SSS SAM
L3          15 S L1 SSS FULL

     FILE 'CAPLUS, MEDLINE' ENTERED AT 13:19:44 ON 08 NOV 2006
L4          23 S L3
L5          23 DUP REM L4 (0 DUPLICATES REMOVED)
L6           2 S L4 AND BIOTIN?
L7           1 S L4 AND FITC
L8           0 S L4 AND LIPOPHIL?
L9           1 S L4 AND PROTECT?
L10          7 S L4 AND ASPARAGINE?
L11          1 S ?OLIGOSACCHARIDE? (P) ?ASPARAGINE? (P) PROTECTIVE GROUP?
L12         10 S ?OLIGOSACCHARIDE? (P) ?ASPARAGINE? (P) ACYLAT?
L13          0 S ?OLIGOSACCHARIDE? (P) ?ASPARAGINE? (P) LIPOPHILIC GROUP?
L14          0 S ?GLYCOPEPTIDE? (P) ?ASPARAGINE? (P) LIPOPHILIC GROUP?
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